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Faculty of Social Sciences
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CONSTRAINED LIFE CHANCES

Intergenerational transmission of income in Finland

Outi Simiö

ACADEMIC DISSERTATION

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ABSTRACT

The resources possessed by one generation have a substantial impact on the life chances of the following generation. Parental material, social, and cultural resources, for example, influence children's educational attainment and occupational career paths. It thus follows that one's position in the socioeconomic hierarchy depends on the family of origin.

An extensive body of sociological research on intergenerational transmission and status attainment has conceptualized social position as occupation-based social class. This study provides new information about socioeconomic attainment by concentrating on income ranking, especially the lowest and highest income levels. Emphasis is given to parental income as a predictor of the personal income of their offspring and of income differences between genders. Income is one of the main indicators of class-related resources that reflects an individual's relative societal position, life chances, and well-being and that captures the actual affluence and underprivileged condition of population sub-groups. The subject of this study is related to the on-going discussion about equality in life chances, which is an objective of most democratic societies; often inequality resulting from family background is considered to violate the norms of equal opportunity.

This study evaluates how the socioeconomic characteristics of parents and events during the early-adulthood life course are associated with a person's achieved income level in adulthood. The analyses concentrated on individuals in their thirties. A longitudinal register-based dataset obtained from Statistics Finland was used for this study. The data covered annually the period 1987–2012 with updates between 1970 and 1985 in five-year intervals from prior censuses. The data were a representative 11 percent sample of the whole population residing in Finland and included individual- and household-level information about employment, education, and family. The information on income was obtained from tax authorities and incorporated all forms of taxable income. The analyses of the data were based on binary logistic regression models, repeated measures linear regression models, and generalized ordered logit models.

Approximately 75 percent of Finns in their thirties have entered an income quintile different from that of their family of origin. The findings of this study demonstrated, first, that intergenerational transmission was strongest at the ends of income distribution: the lowest and the highest levels had the most pronounced persistence across generations. Second, this intergenerational association between parental and offspring's income remained after adjustments for parental and offspring's characteristics. The mechanisms of intergenerational transmission differed between genders, however, as the association was mostly attributable to parental characteristics among men and personal characteristics among women. Third, no substantial change across

cohorts from the 1990s onward occurred among men whereas a slightly strengthening intergenerational association was found among women with low-income parental background. Societal changes thus seem not to have had a noticeable influence on intergenerational mechanisms that allocate income ranking. Fourth, the results showed that the effects of parental background on income attainment are found at different stages of an offspring's life course: even within the same completed educational level, individuals from backgrounds with a higher parental income gained a higher income after graduation. At all educational levels with the exception of the highest, parental income was associated with either a higher starting level or a faster growth of income for the offspring. Finally, the effects of educational attainment, labor market integration, and family formation on adult incomes are modified by parental background. A higher parental income seems to offer compensation when disadvantageous life events occur, shielding offspring from poorer outcomes.

Overall, the results of this study indicate that inequality in Finland, despite its social democratic welfare state policies, is specifically linked to the ends of the stratification. The resources of those with low and high income are differentiated so that social mobility is clearly hindered among those in the lowest social position, while those in the highest position maintain their privileges. Improving the circumstances for those from the least affluent family backgrounds with the specific goal of preventing the long-term effects of low origin would substantially promote an equality of opportunity. The study further established that the intergenerational mechanisms creating outcomes in adulthood differ by gender, possibly owing to structural factors such as a gendered labor market. At the individual level, women's constrained chances for income attainment do not allow them to achieve the same status as men. Household-level differences between genders, on the other hand, signal the important role of union formation for women's life chances.

The study also demonstrated that intergenerational associations are complex combinations of life events and different parental resources: family background influences the transitions across young adulthood as well as the achieved social outcomes. This implies that enhancing understanding of stratification and intergenerational transmission entails implementing a broader approach, taking into account the cumulative nature of socioeconomic and demographic factors.

TIIVISTELMÄ

Perhetaustalla on huomattava vaikutus siihen, minkälaisia mahdollisuuksia lapsilla on saatavilla. Esimerkiksi perheen materiaaliset, sosiaaliset ja kulttuuriset toimintamahdollisuudet ja -olosuhteet vaikuttavat lasten koulutukseen ja ammatillisiin uriin. Saavutettu sosioekonominen asema on toisin sanoen riippuvainen perhetaustasta.

Sosiologinen tutkimus ylisukupolvisesta sosioekonomisen aseman periytymisestä keskittyy yleensä ammattiperustaisen sosiaaliryhmän tutkimiseen. Tässä tutkimuksessa sosiologinen ylisukupolvisuuden tutkimus laajennetaan koskemaan tulotason periytymistä: erityisenä kiinnostuksen kohteena on sijoittuminen tulojakaumalle, erityisesti pieni- ja suurituloiseksi. Myös perhetaustan asema määritellään vanhempien tulotason avulla. Tutkimus tarkastelee, miten vanhempien tulotaso ennustaa heidän lastensa aikuisena saavuttamaa tulotasoa. Tulotaso määritellään siten, että se kattaa yksilön ja perheen käytettävissä olevat resurssit, sosioekonomisen aseman, elinolot ja tavoitettavissa olevat mahdollisuudet. Täten tulotason avulla päästään tutkimaan erityisesti yhteiskunnan vähä- ja hyväosaisimmassa asemassa olevia väestöryhmiä. Tulotason ylisukupolvisuuden tutkimus kuvaa sitä, miten demokraattisten yhteiskuntien tavoitteleva mahdollisuuksien tasa-arvon toteutuu: perhetaustasta johtuvan eriarvoisuuden katsotaan usein rikkovan mahdollisuuksien tasa-arvon periaatetta.

Tässä tutkimuksessa selvitettiin, miten perhetaustan sosioekonomisen ominaisuudet, erityisesti tulotaso, sekä lasten erilaiset saavutukset ja tapahtumat nuoruuden ja varhaisaikuisuuden aikana ovat yhteydessä aikuisena saavutettuun tulotasoon. Aineistona käytettiin rekisteripohjaista pitkittäisaineistoa, joka on 11 prosentin otos Suomen väestöstä. Aineisto on päivitetty vuosittain 1987–2012, ja siihen on lisätty tietoja aiemmista väestönlaskennoista vuosilta 1970–1985 viiden vuoden välein. Aineisto sisältää yksilö- ja kotitaloustason tietoja työllisyydestä, koulutuksesta ja perheistä. Tulotiedot on saatu veroviranomaisilta, ja ne sisältävät kaikki valtionveronalaiset tulot. Aineistoa analysoitiin logistisen regressioanalyysin, toistomittauksiin perustuvan lineaarisen regressioanalyysin sekä yleistetyn järjestysasteikollisen logit-analyysin keinoin.

30-vuotiaista suomalaisista noin 75 prosenttia on saavuttanut tulokvintiilin, joka eroaa vanhempien tulokvintiilistä. Tulotason ylisukupolvisuus on erityisen voimakasta tulojakauman ääripäissä eli pieni- ja suurituloisten joukossa. Tämä vanhempien ja lasten tulotason välinen ylisukupolvinen yhteys selittyy osittain muttei kokonaan perhetaustalla ja muilla lasten sosioekonomisilla ja demografisilla ominaisuuksilla. Vanhempien ja oman tulotason välinen yhteys selittyy miehillä erityisesti perhetaustan ominaisuuksilla ja naisilla omilla ominaisuuksilla. 1990-luvulta lähtien ylisukupolvisuudessa ei ole tapahtunut suurta muutosta syntymäkohorttien välillä: tulotason periytyminen on pysynyt

miehillä samalla tasolla, kun taas pienituloisilla naisilla on tapahtunut pientä ylisukupolvisuuden lisääntymistä. Vaikuttaa siis siltä, että yhteiskunnalliset muutokset eivät ole juuri vaikuttaneet ylisukupolvisuuden tasoon, kun ylisukupolvisuutta mitataan sijaintina tulojakaumalla. Lisäksi tulokset näyttävät, että perhetausta vaikuttaa lasten tulotasoon useammassa vaiheessa elinkaarta. Saman koulutustason saavuttaneiden keskuudessa hyvätuloisten lapset saavuttavat korkeammat tulot tai nopeamman tulokehityksen; tämä pätee kaikkiin muihin paitsi ylemmän korkeakoulututkinnon suorittaneisiin. Kouluttautuminen, työttömyys ja perheenmuodostus vaikuttavat aikuisena saavutettuun tulotasoon eri tavalla riippuen lapsuudenperheen tulotasosta. Hyvätuloisten vanhempien lasten epäsuotuisat elämäntapahtumat eivät ole yhteydessä yhtä suureen tulomenetyksriskiin kuin pienituloisten lapsilla.

Tämä tutkimus osoittaa, että eriarvoisuus Suomessa on kattavasta hyvinvointivaltiota huolimatta keskittynyt erityisesti yhteiskunnan kerrosten ääripäihin. Hyvä- ja pienituloisten resurssit eroavat selvästi toisistaan, sillä resurssien puute johtaa siihen, että sosiaalisen liikkuvuuden mahdollisuudet vaikeutuvat. Hyväosaisilla etuoikeudet puolestaan pysyvät. Mahdollisuuksien tasa-arvoa lisäisi parhaiten vähäosaisten perheiden elinolojen parantaminen keinoin, jotka pyrkivät estämään pitkäaikaisia seurauksia. Lisäksi tutkimus havainnollistaa, että sosioekonomisen ylisukupolvisen periytymisen mekanismit eroavat naisten ja miesten välillä. Yksilötasolla tarkasteltuna naisten tulokehitystä rajoittavat seikat vähentävät mahdollisuuksia saavuttaa sama asema kuin miehillä. Toisaalta kotitalouksia tarkasteltaessa sukupuolten välillä havaitut erot painottavat parinmuodostuksen tärkeyttä naisten elinoloille ja -mahdollisuuksille.

Ylisukupolvinen periytyminen pitää sisällään monitahoisia elämäntapahtumien ja perhetaustan resurssien yhdistelmiä: perhetausta vaikuttaa niin siihen, minkälaisia saavutuksia ja tapahtumia lapset ennen aikuisuutta kokevat, kuin siihen, mitä lapset aikuisena saavuttavat. Tästä johtuen moniulotteinen ylisukupolvisuuden mekanismien tarkastelu, jossa keskitytään erityisesti vähä- ja hyväosaisuuden kumulatiivisen luonteen selvittämiseen, lisäisi ymmärrystä siitä, miten erilaiset sosioekonomiset ja demografiset tekijät selittävät yhteiskunnan jakautumista.

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I wish to dedicate this book to my family background.

In Jätkäsaari, Helsinki
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Outi Sirniö

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LIST OF ORIGINAL PUBLICATIONS

This dissertation is based on the following publications:

- I Sirniö Outi, Martikainen Pekka & Kauppinen Timo M. (2013): Intergenerational determinants of income level in Finland. *Social Forces* 92(2): 463–490.
- II Sirniö Outi, Kauppinen Timo M. & Martikainen Pekka (2016): Cohort effects in intergenerational income transmission in Finland. *Acta Sociologica*, Advanced online publication.
- III Sirniö Outi, Kauppinen Timo M. & Martikainen Pekka (2016): Income trajectories after graduation: an intergenerational approach. *Advances in Life Course Research*, Advanced online publication.
- IV Sirniö Outi, Martikainen Pekka & Kauppinen Timo M. (2016): Entering the highest and the lowest incomes: Intergenerational determinants and early-adulthood transitions. *Research in Social Stratification and Mobility* 44: 77–90.

The publications are referred to in the text by their respective roman numerals.

1 INTRODUCTION

Childhood living conditions noticeably influence future outcomes. Individuals born in families higher up the socioeconomic hierarchy benefit from their deployable resources even before they begin to attain status on their own. Others with less advantageous family backgrounds have to manage from a less favorable starting point.

In other words, people face different opportunities and constraints depending on their family of origin. In sociological research, the basis from which each individual begins to improve or maintain their living conditions is referred to as *life chances*. Life chances are probabilistic in nature and describe the likelihood of an individual to have a certain kind of life, depending on their origin. Thus, life chances are alike within a group of people who share similar living conditions, yet people with the same life chances may eventually end up in different positions.

The notion of life chances in sociology dates back to Max Weber (1922), who conceptualized the idea as a social structure over which one has no control. According to this definition, life chances are generated by ascribed characteristics that are neither earned nor chosen, but assigned to each individual and persist through life. These characteristics are, for example, gender, race, ethnicity, and family background. Achieved characteristics or status, on the other hand, are acquired over the course of a person's life on the basis of one's skills, abilities, and efforts. Achieved characteristics refer to the role of the individual's ability to govern the outcomes of the assigned ascribed characteristics. Outcomes in life are consequently a result of one's action, affected by ascribed life chances.

Systematically demonstrated different outcomes of people with a certain ascribed characteristic compared to other members of society are often viewed as a violation of equality in political and popular discourse. In Western societies, it is generally agreed that welfare and education provisions by the state, for example, are a suitable means for reducing these inequalities. Such social policies are particularly generous in Nordic welfare states (Esping-Andersen 1990), including Finland, which seek to ensure that citizens experience a high degree of opportunity for upholding a socially accepted standard of living independent of market participation.

The Finnish welfare state has been relatively successful in reducing inequality. Income inequality, for example, has for decades remained markedly lower than the average of all European Union member states (Statistics Finland, 2012). However, since the recession in the mid-1990s, income inequality began to increase, driven by the divergence between the top and bottom of the income distribution (Fritzell et al., 2012). This has raised concern about relative life conditions and life chances among those in the most and the least affluent positions in society. The risk of increased closure and

segregation in society rises when social distance between the disadvantaged and advantaged groups grows wider: population groups become more alienated from each other's social spheres (living circumstances, experiences, and life styles) and less willing to accept and interact with those different from themselves. Societal closure refers to the stagnation of social groups so that access to the advantages of the privileged group is closed to outsiders. Consequently, societies with a higher level of social closure waste talent if those from lower family backgrounds are not provided with a chance to achieve their full educational potential. A higher level of inequality and societal closure may also decrease social cohesion and solidarity between groups, increase the number of social and political conflicts along with decreasing social and political participation rates, elevate crime rates, and widen health and life satisfaction disparities (Alesina et al., 2004; Andersen, 2012; Babones, 2008; Delhey and Kohler, 2011; Kawachi et al., 1997, 2010; Lancee and Van de Werfhorst, 2012; Paskov and Dewilde, 2012; Qi, 2012; Rothstein and Uslaner, 2005; Scervini and Segatti, 2012; Solt, 2008; Uslaner and Brown, 2005; Van de Werfhorst and Salverda, 2012; Wilkinson and Pickett, 2006; Van Wilsem, 2004; for an overview, see for example Atkinson, 2015; Neckerman and Torche, 2007; Van de Werfhorst and Salverda, 2012; Wilkinson and Pickett, 2009).

One of the sociological approaches to the examination of societal closure is assessing the extent to which the family of origin predicts the offspring's achieved socioeconomic characteristics in adulthood. Studies on *intergenerational transmission* of social position or on more general *social mobility* seek to illustrate the life chances of different groups of people by means of the distribution of living conditions in the family of origin (Breen and Rottman, 1995b). The smaller the differences between groups in terms of their chances of accessing socioeconomic outcomes, the more open the society is considered to be. This level of societal openness is also often interpreted to reflect the level of *equality of opportunity*.

Though sociologists have mostly concentrated on studying intergenerational transmission in terms of occupation-based social class, this study uses the sociological perspective of socioeconomic attainment at the income level. With specific emphasis on enhancing understanding of inequalities between those in the most and least affluent ends of income distribution, this study seeks to demonstrate the differences in life chances between those from the lowest- and the highest-income families, as well as to explore the mechanisms linked to this association. The aim is to analyze social regularities that are relational, with reference to the differences between advantaged and disadvantaged population groups. These social regularities resonate with persistent probabilistic patterns of an individual's actions and outcomes as a product of structurally shaped opportunities and constraints which are affected by institutional arrangements (e.g., Sørensen, 1977, 1983, 1996).

2 CONCEPTUAL AND THEORETICAL FRAMEWORK

2.1 SOCIAL STRATIFICATION AND EQUALITY OF OPPORTUNITY

Social stratification, a permanent feature of all societies, ranks people in hierarchical categories according to the resources that are socially valued and desired. These resources can be economic, cultural, social, civil, or physical, for example, or related to power, prestige, or human capital. Social processes define which of these resources are most valued and distributes the assets across different groups in the division of labor, taking into account that particular positions are considered more desirable (or higher) than others. Many of the resources are usually concentrated so that a high level of privilege in one resource type correlates with a high level in others as well. In many societies, some resources are more important than others, thereby providing those in the highest position access to more advantageous statuses and more social power. Because the resources are distributed unevenly among individuals, the amount of this dispersion is considered indicative of the level of inequality in a given society. (Breen and Rottman, 1995b; Davis and Moore, 1945; Grusky and Ku, 2008)

The allocation of resources in social stratification is usually rather stable so that only graduated changes occur over longer periods of time. The mechanisms that assign individuals to these positions in the socioeconomic hierarchy can be more complex and hidden, and fluctuate more across time. The society is more open when its members' social positions are less dependent on their social conditions at birth and their life chances are distributed evenly. The dynamics of the stratification system that offer some people more resources than others are, however, partly based on ascriptive processes: the achieved social position depends on ascribed characteristics, such as family of origin and gender. (E.g., Grusky and Ku 2008.)

Except for the parental autonomy to decide on their children's upbringing, ascriptive processes are usually regarded as unwanted in Western societies. The legitimacy of the stratification system relies on the objective of providing all individuals equal opportunities for achieving valued societal positions; in other words, the objective is equal life chances for all. From an individual-level perspective, the idea of equality of opportunity is to "level the playing field," as expressed by Roemer (e.g., 1998, 2004, 2009): all individuals should have equal chances to achieve the same outcomes, regardless of their ascribed characteristics. Thus, individuals are not held responsible for their ascribed characteristics or any other circumstances that affect their possibility to acquire valued assets, but individuals are held responsible for their own

efforts.¹ In most post-industrial societies, several kinds of policy attempt to provide compensations for those with disadvantageous origins in order to enable equal chances of obtaining those assets and societal positions that meet the individuals' skills and effort. Consequently, the society may function more fruitfully, as no talent is lost. Thus, from a society-level point of view, goal of equality of opportunity can be regarded as an inherent characteristic of modern societies: modernization increased economic competition, which in turn enforced skill-based recruitment practices (Blau and Duncan, 1967; Treiman, 1970). This creates stratification processes that are based more on achieved than ascribed characteristics.

In theory, equality of opportunity has been attained when everyone with the same level of effort, regardless of their ascribed characteristics, has the same opportunities in a society. Hence, equality of opportunity is distinguishable from equality of outcome, which refers to the equal distribution of resources among all members of a society (e.g., Crompton, 2008). Equality of opportunity is closely linked to the idea of meritocracy: a system of allocation in different positions in the socioeconomic hierarchy that is based exclusively on individual merit. Thus, meritocratic selection into the labor market justifies inequality of outcome when equality of opportunity prevails.

2.2 SOCIAL MOBILITY RESEARCH

Social mobility researchers study the probability of entering different positions in the stratification hierarchy. The aim of intergenerational social mobility research is to study inequalities related to parental origin by showing whether equality of opportunity applies to all social groups. Typically, the research concentrates on exposing the strengths and structures of the link between an individual's achieved and their parents' ascribed social, educational, and economic characteristics. The goal is thus to show whether the empirically-found distribution of social outcomes differs from the idea of an open society in which equality of opportunity occurs (e.g., Dardanoni et al. 2006; Grusky and Ku 2008; Roemer 2004, 2009). The results are considered to reflect prevailing life chances in each socioeconomic subgroup. The general objective is to answer three types of questions: a descriptive approach aims at exploring how much inequality exists; an explanatory analysis intends to determine why the observed distribution of outcomes is asymmetrical; normative studies ask whether the current state of inequality can be considered as justified (e.g., Svallfors, 2005).

¹ A less strict perspective on equality of opportunity has been introduced to suggest that rewards from ascribed characteristics that are valued in the labor market, such as beneficial personality traits, should be seen as legitimate (Swift, 2005).

Social mobility refers to the intergenerational transmission of individuals from one social position to another, indicating the dissimilarity in social positions between the previous generation and their offspring. As an indicator of society's openness, the absolute level of social mobility is defined by referring to the proportion of the working-age population whose current social position diverges from their parental origin. Thus, the population can be divided into those who have been “mobile” (i.e., have moved from the original position occupied by their family of origin to some other position, either upward or downward) and those who have been “stable” (i.e., remained in the same position as their family of origin). Further, the proportion of those who have been mobile (denoted as absolute or total mobility rate) can be divided into structural mobility (allocation of individuals to social positions due to urbanization or modernization, for example) and relative mobility (allocation of individuals to social positions regardless of structural changes). According to Erikson and Goldthorpe (1992), patterns of relative mobility are determined by the relative desirability of each position, the relative advantages rendered for each social origin, and the relative barriers people face when gaining access to different social positions. Overall, a higher level of relative mobility is considered to indicate a higher level of the society's openness, providing people with more opportunities to attain social positions different from their parental background.

The key paradigm for social mobility research is status attainment, developed by Blau and Duncan (1967), which describes how an individual arrives at a social position. The status attainment approach emphasized the social processes underlying the association between parental and personal social position. This is usually studied as path analyses, whereby the aim is to investigate whether the association between two factors (in this case, parental and personal social position) runs via other factors. The best-known model introduces the role of educational qualifications, also called the “OED triangle” (Figure 1), as the most influential explanation for the intergenerational association (e.g., Blau and Duncan, 1967; Breen, 2004a; Breen and Jonsson, 2005, 2007; Ganzeboom et al., 1992; Ishida et al., 1995). In this approach, the association between parental background (denoted as “Origin”) and personal social position in adulthood (“Destination”) is explained via two

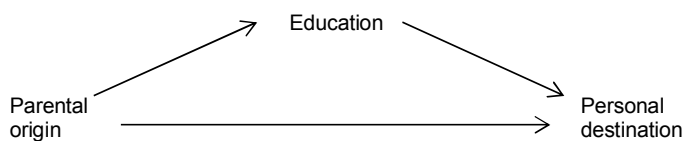


Figure 1. The OED triangle: Origin (parental background), education, and destination (personal social position in adulthood).

paths: parental background directly affects personal position, and also affects it indirectly through the offspring's achieved education.

The aforementioned approach has been criticized for focusing too narrowly on individual-level actions and neglecting the macro-level processes that play a role in intergenerational transmission (e.g., Burawoy, 1977; Goldthorpe and Marshall, 1992). According to these critics, educational achievements can be defined as representing not only the individual-level resources that are linked to different levels of education, but also the institutional context in which a given educational system affects the intergenerational transmission. The educational system along with other societal characteristics determines the context in which individual-level mechanisms take place at different stages of the status attainment process, described in Figure 2. A broader approach also recognizes transitions and events other than educational attainment over the life course, such as labor market participation and family formation.

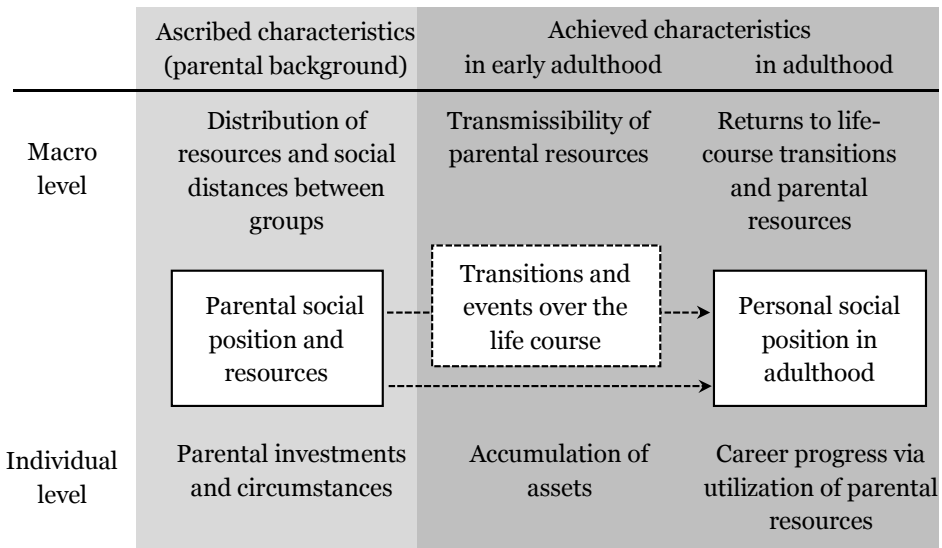


Figure 2. The conceptual framework of mechanisms in status attainment.

In Figure 2, the association between the resources of the family background and children's personal outcomes in adulthood is partly direct, but also runs by way of different transitions and events over the life course. This is affected by both institutional macro-level characteristics and individual micro-level mechanisms. First, at the macro-level, the effect of family background is associated with the strength of the distribution in resources between parental social positions. The gradient of this distribution determines the allocation of resources and the social distance between social groups and is defined by the stratification system in a given society. In a more stratified society, the resources between social groups are more distinctly segregated, which results

in groups that are more isolated from each other. At the individual level, parents with higher levels of resources have more to invest in their children and can provide more favorable circumstances and other endowments. Second, macro-level institutions determine how much importance is given to parental resources at different stages in the status attainment processes and the extent to which parental resources are transmissible between generations. The educational system, for example, partly defines the extent to which parental background is allowed to affect children's schooling. At the individual level, this indicates that advantages and disadvantages accumulate across the life course, so that parental background is associated not only with the occurrence of each transition but also with the effects of these transitions on future outcomes. Third, the macro-level demands of the labor market define the extent to which characteristics related to previous transitions and resources of the family of origin are required and valued in recruitment processes. At the level of the individual, these demands allow for career progress opportunities that vary according to family background. (E.g., Breen and Jonsson 2007; DiPrete 2002.)

Thus, as in the OED triangle, parental background affects an offspring's social position, not only directly, but also through transitions and events during the offspring's life. Social mobility is therefore always influenced not only by micro-level circumstances (Section 2.3.), but also by contextual (Section 2.4.) circumstances.

2.3 INTERGENERATIONAL MECHANISMS IN STATUS ATTAINMENT

2.3.1 PARENTAL RESOURCES

The individual-level mechanisms of intergenerational transmission introduced in Figure 2 play a key role in understanding why life chances differ according to parental background. Resources between families in different social positions vary in type and number (e.g. Becker and Tomes, 1976; Breen and Jonsson, 2007; Coleman, 1988; Musick and Mare, 2006). In his classic sociological work, Pierre Bourdieu (1984, 1986) classifies these resources into three dimensions: economic, cultural, and social capital. For Bourdieu, all types of resources are equally significant, and individuals use them actively to promote social advantage (see also Devine, 2004). Economic resources refer to monetary and material assets comprising earnings, wealth, and property that can be put to use to create favorable circumstances. Moreover, cultural capital denotes the level of knowledge and cultural and behavioral norms of the parental family typically described by goods, attitudes, preferences and aspirations, and achieved qualifications. Close to Bourdieu's cultural capital is the concept of human capital, introduced by economist Becker (1964), which

refers to skills, knowledge, and credentials that increase individual's productivity in the labor market. Finally, according to Bourdieu, social capital comprises social networks and connections, based on such things as relationships and group membership that can be employed to promote one's own interests.

The extent and the quality of their resources classify families in the socioeconomic hierarchy. Resources not only encompass concrete benefits, but also capture differences in values, attitudes, and aspirations, for example. Parental resources can be directly and intentionally utilized to help offspring acquire personal resources that are valued in the labor market and the society, but they also create favorable circumstances indirectly that unintentionally facilitate socioeconomic attainment. The direct influence parents have on their children's socioeconomic attainment involves intentional behavior. This behavior includes monetary investments on children's living conditions, inheritance of property or other monetary assets, transmission of skills and aspirations, and providing support and control. Unintentional transmission occurs through circumstances consequent upon parental resources that differentiate chances for status attainment, such as through socialization and role modeling, or genetic inheritance of cognitive and non-cognitive traits. Though genetic heredity is evident, parents also set norms of behavior and aspirations, for example. Overall, though conceptually distinguishable, empirical analyses often lack the means to separate the intentional effects from the unintentional effects of family background.

Economists formulate this framework of intergenerational persistence in a simple way, relying on the rational choice approach. Denoted as the human capital theory, the model assumes parents aim at maximizing the well-being of their children by choosing optimal investments to increase children's human capital development (e.g., Becker and Tomes, 1979, 1986). Along with these parental investments, offspring's socioeconomic outcomes in adulthood are considered to also be associated with endowments that are received from their parents through childhood family environment, namely sociocultural and genetic attributes. The model was further elaborated with a more sociological approach by Coleman (1988) who asserted that parental human capital does not benefit offspring if it is not accompanied by social capital, represented in family relations.

2.3.2 STRATEGIES OF INTERGENERATIONAL TRANSMISSION

In general, families higher up in the socioeconomic hierarchy have more advantageous resources with which to facilitate strategies of status attainment, whereas strategies can be constrained by disadvantageous childhood circumstances (Goldthorpe, 2007b). According to Goldthorpe, people with less advantaged family background use "strategies from below," such as obtaining a higher educational level, in order to improve their social position. These strategies are prone to being undermined by those who are more

advantaged, however, who use “strategies from above” in order to maintain their privileges. Pursuing strategies from above is unlikely to be constrained by inadequate resources, such as lack of parental encouragement, ascribed attributes, and monetary support. More affluent parents may aim at shielding their offspring from poorer outcomes. These strategies include the utilization of social networks, higher and more specialized educational achievement, and monetary backing, along with resources such as support, stability, and cultural norms. The theory of effectively maintained inequality (Lucas, 2001, 2009) posits that the importance of qualitative differences may replace the importance of quantitative differences among those already higher up on the socioeconomic scale: in the case of educational attainment, for example, securing a certain level of education may not be sufficient enough “strategy from above” but qualitative features such as the choice of educational field and the educational institution may be largely used as strategies for achieving better position. Thus, parents can regulate the extent of resource deployment according to the risk of confronting disadvantages: the greater the risk, the more extensive is the deployment. Because parents from lower social positions have fewer socioeconomic resources to use, their prospects of shielding their offspring from disadvantage are fewer.

The effects of offspring’s previous life events on adult outcomes differ, depending on parental background: a more affluent parental origin may protect offspring from confronting risky life events, or compensate for the returns of disadvantageous events with favorable resources (Bernardi, 2012b, 2014; Boudon, 1998; Conley, 2004). According to this compensatory advantage theory, differences between groups persist as both direct and interaction effects, so that not only attaining a socioeconomic advantage, but also enjoying its returns are linked to parental background and other ascribed characteristics (Blau and Duncan, 1967). Affluent parents may employ beneficial strategies to compensate for previous negative transitions in order to secure future success for their offspring, whereas less affluent parents have fewer resources to utilize. More affluent parents may also be more prone to believe in successful future outcomes for their children, even when previous transitions have been unfavorable, whereas less affluent parents may divert their scarce resources to another child in the family with more successful previous transitions (Conley, 2008). The risk of downward social mobility is also smaller for children from less affluent families which may explain fewer compensatory investments (Breen and Goldthorpe, 1997).

As illustrated in Figure 1, achieving a high level of education is the foremost means of obtaining and maintaining a high social position (e.g., Bowles and Gintis, 2002; Breen, 2004a; Breen and Jonsson, 2005; Ganzeboom et al., 1992; Goldthorpe, 2007b). According to economists Becker and Tomes (1986), education is an investment that is accessible to more affluent parents as a means of promoting their children’s life chances. Educational attainment varies according to family background, and, according to Boudon (1974), these differences are related to both academic performance (primary effects) and

educational choices (secondary effects). Primary effects refer to parental resources that reinforce an offspring's level of academic ability; secondary effects refer to educational aspirations that are subject to parental background, even when school performance remains constant. It has been argued that the former results from childhood circumstances that shape cognitive abilities and performance by ways of parental incentives and genetic aptitude, whereas the latter stem from rational choice (Breen and Goldthorpe, 1997; Erikson and Rudolphi, 2010). Consequently, students of more affluent origin tend to have higher levels of educational ambition irrespective of their actual skills, which increases their chances of higher educational achievement.

Cultural reproduction theory and rational action-based theory have been introduced to explain mechanisms of intergenerational transmission. According to the latter, the main aim of strategies both from below and above is to prevent offspring from ending up in a more disadvantageous position than their parents (Breen and Goldthorpe, 1997; Goldthorpe, 2007b). This argument is based on the theory of relative risk aversion,² which assumes that people act with the specific goal of avoiding downward mobility, and the goal does not differ according to family background. The theory thus implies that avoiding downward mobility is a prioritized objective of all individuals, regardless of social position, and attaining a higher position compared to parental origin is regarded as a secondary goal. In decision-making processes concerned with status attainment, such as educational and occupational choices, the costs and risks of pursuing a higher social position are compared to the benefits, and if the costs outweigh utility, then the choice of further status attainment is revoked. Accordingly, decision-making and consequently status attainment are considered to rest upon an individual's rational actions: forward-looking attempts to make the best possible choices.

From a culturalist point of view and building on Bourdieu's arguments, however, the educational system is not a neutral network in which students choose different routes according to their rational choices. Instead, educational choices are a product of class-conditioned behavior rewarded in the educational system: dominant classes define the type of cultural resources that are valued in schools (such as formal knowledge, attitudes, tastes, and preferences), and having these resources facilitates navigating the system. Cultural reproduction assumes that parents pass on their cultural resources, both actively through parental actions and passively through socialization, and the children actively convert these asset into educational success. The theory also states that evaluation of achievements in school is not objective but based on criteria determined by the elite, promoting reproduction of stratified

² Though the theory of relative risk aversion was originally framed to describe the effect of parental education on an offspring's educational decision-making (Breen and Goldthorpe, 1997), the theory was later reformulated to apply to all types of parental characteristics as the basis of an offspring's aims with regard to educational and labor market outcomes (Breen and Yaish, 2006).

outcomes. (Bourdieu, 1977, 1984, 1986; Bourdieu and Passeron, 1977; see also Collins, 1971.)

Compared to the cultural approach, the rational action-based perspective on status attainment assumes that all individuals share the same goal (i.e., avoiding downward mobility), and this goal would prevail even in the absence of cultural differences. Thus, inequalities are understood as variations between parental background groups in the necessary business of pursuing education (Breen and Goldthorpe, 1997). In contrast, cultural reproduction theory holds that an individual's goals and the means considered suitable for attaining those goals arise from motivations and reasons that vary according to current circumstances, most noticeably family background (Bourdieu, 1977; Bourdieu and Passeron, 1977). Even though the theories may seem to conflict to some extent, some researchers have emphasized their similarities and combinability (Glaesser and Cooper, 2014; Swartz, 1981). Both approaches focus on individual actors and underline the ways in which interacting factors produce social phenomena. Boudon's model of primary and secondary effects (1974), it has been argued, connects both theories: evidence suggests that primary effects are explained by cultural resources whereas, the theory of relative risk aversion is more applicable to understanding secondary effects (Van de Werfhorst and Hofstede, 2007; see also Devine, 2004).

Even with the same achieved educational level, parental background may affect an offspring's achieved labor market outcomes and career progress. Those with an advantageous backgrounds may have better job productivity through having higher career ambitions, stronger self-confidence, and enhanced social and cognitive skills (Bernardi, 2012a; Bowles et al., 2001; Goldthorpe, 2007b, 2014; Hansen, 2001; Jackson, 2007; Mastekaasa, 2011). Career opportunities open to individuals from different parental backgrounds may also vary independent of job performance (e.g., Bourdieu 1984; Hansen 2001; Mastekaasa 2011). Consequently, those from more affluent backgrounds may have more social connections to exploit when looking for a job, as well as the cultural and socio-emotional traits that employers prefer. Parental background may affect aspirations to find higher-income jobs, for example. Work orientation is also linked to parental background: those from more affluent origins emphasize self-direction and flexibility, whereas their counterparts from less affluent origins stress orderliness and respect for authority (Bowles, Gintis, and Osborne 2001; Kohn et al. 1990; see also Goldthorpe 2013). It has also been suggested that those with more affluent parental backgrounds tend to prefer fields of study that are more likely to lead to greater monetary rewards (Erikson and Jonsson, 1998; Van de Werfhorst, 2002; Van de Werfhorst and Luijkx, 2010).

Patterns of family formation are also interconnected with socioeconomic attainment. Union formation and childbearing are both associated with parental background and affect future adult outcomes. Parents higher on the socioeconomic scale may be better able to influence their children's family formation plans (e.g., Axinn and Thornton, 1992; Barber, 2001; Billari and

Liefbroer, 2007), possibly by participating more actively in the long-term planning of their children's futures and by being more informed of the risks related to choices made during early adulthood (Farkas, 2003; Wiik, 2009), as well as by providing social networks that promote different behavioral norms (e.g., Blossfeld and Timm, 2003; Erikson and Goldthorpe, 1992). The tendency to choose a partner with similar socioeconomic characteristics has been argued as playing a pivotal role in the reproduction of social stratification from generation to generation (e.g., Blossfeld, 2009; Bourdieu, 1984; Ermisch et al., 2006; Katrňák et al., 2012; Ultee and Luijkx, 1990): accumulation of advantaged or disadvantaged resources in one household amplifies differences between socioeconomic groups and may provide new opportunities or restrict available ones. If the partners are less similar with regards to their socioeconomic characteristics, however, they may choose to specialize based on their comparative advantages (Becker, 1991). This would affect their status attainment by emphasizing the breadwinner role of the partner with more potential and thus reduce the need of the other partner to aim at high social and economic outcomes. Moreover, the effect of childbearing on status attainment is particularly strong for women as staying out of the labor market for longer periods of time in early adulthood and adulthood hampers labor market achievements (Petersen et al., 2014).

Not only does an individual's personal family in adulthood play a role, but so too does the structure of the parental family: in single-parent families, for example, fewer resources are available (often because of a weaker economic situation and time constraints on investing in children) due to an absent parent (e.g., Björklund and Sundström, 2006; Cherlin, 1999; Jonsson and Gähler, 1997; Steele et al., 2009). Nor should development in childhood be ignored, because the basis for most of the skills required for socioeconomic success in adulthood is already formed before school age (e.g., Duncan et al., 1998; Heckman, 2006). These skills include such things as cognitive and social abilities, which are influenced by experiences and circumstances in childhood. A study conducted in the United States suggests that differences in these skills according to parental background stem mainly from lower cognitive stimulation (such as reading books and participating in cultural activities), but also involve more negative parenting styles, the physical home environment, and poor health (Guo and Harris, 2000). In general, the effect of parental resources in creating an accumulation of advantages and disadvantages from very early in life provides insight into the differences observed in later life.

Whether mechanisms linked to intergenerational transmission are gender specific is unclear. Breen and Goldthorpe (1997) state that differentials according to parental background should be more similar between genders today than before, because women's social positions have become more employment-based rather than marriage-based. The differential investment hypothesis assumes that parents with social classes that are less education-oriented, such as the self-employed and farmers, have gender-specific expectations of their children than do parents in other social classes (Breen et

al., 2010). The sex role model, on the other hand, argues that children are primarily oriented towards their same-sex parent (Acock and Yang, 1984; Boyd, 1989); this would imply that intergenerational transmission is particularly strong between mothers and daughters and between fathers and sons.

2.4 LIFE-COURSE PERSPECTIVE AND TRANSITIONS TO ADULTHOOD

Though most of the conventional social mobility research treats life-course events as isolated transitions, such as the wide range of studies focusing on the role of educational achievements, a broader life-course perspective on status attainment highlights intergenerational transmission as a process. This approach emphasizes that a child's status attainment occurs during their life course before adulthood. Childhood, adolescence, and early adulthood are recognized as dense life phases in which multiple decisive transitions occur simultaneously (e.g., Buchmann and Kriesi, 2011; Elder, 1985; Kohli, 2007; Shanahan, 2000). Transitions before adult outcomes refer to discrete life changes or events within an individual's long-term course of life, which often bring about a change in social status or identity. As the cumulative advantage theory in status attainment states, the effects of a multitude of small events when taken together, may have large effects over time in the stratification processes (DiPrete and Eirich, 2006). Thus, attained advantages become resources that can be utilized to produce subsequent benefits. The disparity between those with more and those with less favorable transitions grows over time, and favorable transitions create more beneficial returns to those from more as opposed to those from less affluent parental background (Merton, 1968). Accordingly, not only do the differences between individuals grow over time, but so too do the mean differences between parental background groups.

In sociological life-course research, educational transitions, labor market integration during the first years after completing schooling, and family formation differences are considered the key individual-level life events that are interconnected and create inequalities in adulthood (e.g., Macmillan, 2005; Müller and Gangl, 2003; Settersten Jr., 2007). Denoted as "pathways" or "trajectories", sequences of these transitions in individual lives are believed to share features to the extent that societal regularities can be found (e.g., Elder, 1985; Mayer, 2009; Shanahan, 2000). These transitions may occur with different timing, ordering and duration, forming a sum of individual experiences that contribute to socioeconomic outcomes in adulthood.

The effects of transitions on adult outcomes and their interrelation with parental backgrounds vary across time and place. Consistent with the life-course perspective, children mature in the interaction among demographic, social, and cultural factors (Elder, 1998): transitions across the life course are linked to family relationships and other social ties along with current

institutional and structural circumstances. Thus, transitions in the parental family, such as a family disruption that causes stress, may also contribute to the effects of the offspring's transitions on adult outcomes. Early-adulthood life courses have been described as "culturally scripted and socioeconomically structured": cultural norms define the expected transition from adolescence to adulthood, but these norms are flexible and take into account the available economic and social resources (Fussell and Furstenberg, 2005). As a result, through intergenerational transmission of resources and socialization, children face different opportunities and constraints, depending not only on their family of origin, but also on the current family-level, historical, and institutional context.

2.5 CONTEXTUAL CONDITIONS

The individual-level intergenerational effects always take place in societal contexts: institutional and social arrangements also play a key role in the processes of intergenerational transmission, as introduced in Figure 2. Institutional variation between countries is generally believed to stem from the educational system, the welfare system, and labor market regulation (e.g., Breen and Buchmann, 2002). Among these long-term societal characteristics, the educational system is the key societal "sorting machine" that directs individuals into different positions in the stratification system. Educational systems vary across countries in the levels of differentiation and standardization which define the selection and allocation processes, and in their linkage to the labor market. Internal differentiation refers to the classification of students within a school into groups according to their abilities, while external differentiation refers to tracking between schools so that all students are placed in different educational programs at specific points in their educational trajectories. All educational systems include track placements, but vary in their timing, frequency, and finality. In systems with low levels of differentiation, students tend to take more similar educational paths, whereas high levels of differentiation arrange students in distinct, divergent paths. A high level of differentiation has been shown to provide improved labor-market relevance of recent graduates but it also reduced equality in educational opportunity and causes a higher dispersion of achievement scores. (E.g., Bol and Van de Werfhorst, 2013; Iannelli and Smyth, 2008; Kerckhoff, 1995; Van de Werfhorst and Mijs, 2010.)

Standardization, on the other hand, indicates how evenly schools perform within a country in terms of the quality of education. This includes governmental standardization of the curriculum, standardized nationwide examinations, and resources provided equally for all schools. Highly standardized educational systems have been shown to be associated with a higher level of equality in educational opportunity (e.g., Kerckhoff 1995; Van de Werfhorst and Mijs 2010). Finally, linkage to the labor market refers to how

well qualifications provided by educational institutions add immediate labor market value to employers (e.g., Müller and Gangl, 2003; Shavit and Müller, 1997). The transition from school to work is more systematic and less incidental in systems where standardized vocational qualifications are awarded (Gangl, 2003).

Pre-schooling also plays a role in the variation of intergenerational transmission between countries. Though the effects of family of origin are already found in children before they begin formal schooling (e.g., Carneiro and Heckman, 2003; Meyers et al., 2004), universal pre-schooling has been shown to diminish parental background effects in countries where it is available as compared to other countries with lower quality, less standardized, limited attendance systems (Esping-Andersen, 2004; Esping-Andersen et al., 2012).

In addition to the effects of the educational system, the processes of intergenerational continuity are also governed by welfare state policies. The level of welfare state benefits, taxation, and subsidized services intended to equalize living conditions determines how intensively the distributive processes and outcomes are modified. Compared to other welfare states, the extensive social policies offered by a social democratic welfare state are intended to protect citizens and guarantee adequate economic resources through universal and decommodifying benefits, independent of the market or familial reliance (Esping-Andersen, 1990). It has been argued that this weaker reliance on the family has caused transitions to adulthood to include nontraditional family formation patterns more frequently than in other welfare systems. Prior research suggests that social democratic countries ensure a higher level of equal opportunity and weaker intergenerational transmission more effectively than other welfare states due to generous family policies that emphasize supporting dual-earners, a circumstance that lowers the level of inequality between households, especially where child poverty is concerned (Beller and Hout, 2006; Palme, 2006; Sørensen, 2006). According to comparison studies of European countries, the Nordic welfare states, including Finland, are more efficient in preventing poverty and reducing disparities in citizens' economic capacities (e.g., Fouarge and Layte 2005; Whelan and Maître 2005).

Institutional features of the labor market also shape opportunity structures, because the intergenerational association between parents and children is tied to the characteristics and demands of the labor market. Labor market legislation and other political institutions shape competition and recruitment practices, for example, which in turn define the value of ascribed characteristics and chances for career progression. Thus, the aggregate level of intragenerational mobility across careers, or, in other words, the turbulence of the labor market, along with the direction of mobility flows generated by structural changes are influenced by the level of regulation (DiPrete et al., 1997). In highly regulated labor markets with high level of unionization, professionalization and internal labor markets, employment opportunities are

constrained for young adults compared to senior workers (e.g., Baranowska and Gebel, 2010; Breen, 2005; Wolbers, 2007). Occupational segregation and the employment sector have also been found to affect hiring processes and wage negotiations noticeably (Birkelund, 2006), and economic globalization has been shown to create structural employment uncertainty (Blossfeld et al., 2005), which in turn directs status attainment.

In addition to long-term contextual features, changes in policies, economic conditions, and labor market structure may yield period and cohort effects that contribute to intergenerational reproduction. Accordingly, birth cohorts face different contextual constraints and opportunities, depending on the societal conditions at each stage of their life course. According to Breen and Jonsson (2007), education can influence changes in intergenerational transmission over time through two processes: first, educational reforms may weaken the effect of parental background on the offspring's education (*equalization*); second, expansion in those levels of education in which the association between parental and personal social position is low may weaken the overall level of intergenerational transmission (*compositional*) (see also Hout 1988; Vallet 2004). School reforms, for instance, may equalize access to higher education and thus weaken intergenerational transmissibility. Other welfare state policies apart from school reforms may also affect trends in intergenerational transmission (Beller and Hout, 2006); income redistribution, for example, equalizes the distribution of income and thus decreases class returns, resulting in different labor market outcomes for those newly entering the market compared to firmly established middle-age workers.

Economic downturn and recession, on the other hand, generate uncertainty in employment prospects and economic circumstances, which may reduce the resources of the parental family and affect the offspring's status attainment, given that educational and career choices are dependent on current labor market conditions. Additionally, a rising level of income inequality may be linked to stronger intergenerational reproduction (e.g., Solon, 2004; Corak, 2006, 2013; d'Addio, 2007); because of increasing status competition, growth in income inequality between cohorts may lead to a more marked gradient and wider social distance between disadvantaged and advantaged groups. Wider income distribution is associated with higher returns on education, which tends to create stronger intergenerational continuities, since children from more affluent families have higher returns.

Historical trends in intergenerational transmission are also associated with societal structural changes, such as industrialization, modernization, and urbanization. This structural development toward a postmodern, knowledge-oriented society after World War II led to an expansion of the educational system and an increasing number of middle-class occupations. It has been posited that educational expansion increases meritocratic selection, which in turn diminishes intergenerational transmission (Section 2.1.); this historical tendency from ascription to achievement is believed to be stronger in the labor

market for the highly educated, where the tough economic competition enforces skill-based recruitment practices (e.g., Blau and Duncan 1967; Breen and Luijckx 2004; Hout 1988; Treiman 1970). An opposite line of reasoning, however, postulates that educational expansion has weakened the signaling role of education and thus strengthened intergenerational transmissibility. The demand for highly qualified employees has not grown as quickly as the supply, which has led to a decline in the occupational advantages that schooling gives and an increase in the value of ascribed characteristics in labor markets (e.g., Breen and Goldthorpe, 2001; Goldthorpe, 2000; Goldthorpe and Jackson, 2008; Jackson et al., 2005; Mastekaasa, 2011; Vallet, 2004). As a result, educational inflation could have led to stronger intergenerational associations; increasing numbers of those with the highest level of education deflate the value of achieved educational credentials and inflate the value of ascribed characteristics.

A diminishing agricultural sector and expanding industrial and service sectors vitally changed the labor market structure in all Western societies in the 20th century. These changes created structural upward social mobility (Ch. 2.2; Erikson and Goldthorpe, 1992) and diversified the growing middle classes, which are typically employed in service occupations (Van de Werfhorst, 2007). Consequently, heterogeneity in earning and career progression opportunities in middle-class groups increased (Bihagen, 2005) which supposedly affirmed the relevance of occupation-specific cultures and resources rather than those linked to a more general class identity (Grusky and Weeden, 2001; Jonsson et al., 2009; Weeden and Grusky, 2012). However, no consistent interpretation of the effect of this societal development on intergenerational transmission has emerged: according to modernization theory, these changes should have led to decreasing intergenerational reproduction (e.g., Blau and Duncan, 1967; Kerr et al., 1960; Parsons, 1960; Treiman, 1970), while other researchers have maintained that despite industrialization and other societal changes, the strengths and patterns of intergenerational transmission would remain rather invariant in industrial societies with a market economy (e.g., Erikson and Goldthorpe, 1987, 1992; Featherman et al., 1975; Grusky and Hauser, 1984).

2.6 INCOME AS A MEASURE OF LIFE CHANCES

Conceptually, social mobility analysis assumes that a hierarchical social stratification exists in a given society. The differentiation of a population into these strata is based on socially valued assets (Section 2.1), such as education, occupation, prestige, or income. However, because of the multidimensionality of this social ranking, the definition depends on the applied theoretical and conceptual approach (see Sørensen, 2000 for an overview). However, each line of classification has the same goal, namely, to identify homogeneous groupings with respect to the amount and type of resources that describe the

group's social power, and that vary over time. In other words, the resources possessed and the objective constraints confronted on action define life conditions and chances. Thus, classification schemes that illustrate current societal structures as social mechanisms linked to different groups are dependent on time and context. Members of a category are considered to be in similar situations that usually entail similar outcomes to their actions.

Traditionally, sociologists since Karl Marx and Max Weber have regarded occupational-based social classes as the key division of rank, because social classes arguably depict long-term economic security and prospects, working relations, and other forms of affluence and hardship (see Erikson and Goldthorpe 1992 on EGP social class schema primarily used in social mobility studies). Thus, ideally, achieved occupation is considered to reflect a group's social power, life conditions, and chances. Occupation-based social classes are perceived as sharing similar working conditions and socio-cultural contexts, based on the division of labor. Social classes are claimed to exist empirically, because they have identifiable boundaries (e.g., Sørensen, 2000); social-class identity is assumed to be predetermined by occupation and to create similar behavior among those in a certain class.

Income, another dimension of social ranking, has been less frequently studied by sociologists, but is a common subject of research among economists. Income is, however, one of the main signals of class-related socioeconomic resources that portray relative societal position, life chances, and well-being. Even Marx and Weber considered income to be a substantial factor in social position. For Weber (1922), categorization into social classes was fundamentally defined by the amount of property a person owned, and the whole stratification system was a result of economic order. Regardless of this theoretical basis, Weber did include in his interpretation of social hierarchy both economic and non-economic features of stratification. Marx (e.g., 1894), on the other hand, did not regard social class as stemming from the level of monetary assets, but he did see that the capitalist production system would provide lower rewards for wage-earning workers than the for property-owning class.

Ranking in income distribution may capture the actual affluent and disadvantaged population sub-groups more accurately than occupation-based social classes, or at least as accurately, because income distribution also portrays variations in life chances. Income as a measure of social position is not conditional on achieved occupation, but it does capture those outside of the labor market or without education. Because of differences and changes in the labor markets, occupations may also have different assets among younger birth cohorts as compared to older cohorts, occupational assets may differ between countries. Being ranked at the lowest or the highest end of income distribution may thus be a less biased indicator of relative ranking than occupation-based social class. Concentrating on groups of income distribution, such as the lowest and highest income deciles, takes into account the relational aspects of inequality in addition to the distributive ones;

occupying a relational position involves having access to certain resources and facing certain shared possibilities and constraints that affect behavior. Thus, income grouping based on ranking measures can be seen to capture not only shared resources, but also similar structural positions, indicating social power based on economic resources such as political influence. Similar social power has been considered one of the key elements of social positions (Breen and Rottman, 1995a; Crompton, 2008; Wright, 2005, 2008).

The conventional conception of inequality related to income is gradational: income indexes labor market resources that are posited to reflect overall desirability on a hierarchical scale (e.g., Jonsson et al. 2011; Weeden and Grusky 2012). People close to each other on the scale are considered to share a similar culture, worldview, and interests stemming from shared opportunities and constraints that are made possible by their economic circumstances. For instance, parents higher up on the scale have control over resources that enable their offspring to succeed. Although a gradational view of stratification and inequality has been criticized for being unable to capture qualitative differences in employment relations (unlike occupational-based big classes, see Erikson and Goldthorpe, 2002), a recent study suggests gradational measures of stratification do not understate the social structure of life chances (Weeden and Grusky, 2012).

The reason for the lack of interest among sociologists in studying income, in addition to insufficient data, is its artificiality in defining population groups. Using ranking in income distribution as a measure of social position does not mean that these groups have clear empirical boundaries with identifiable group membership. Subjective assessment of one's own social class is likely to be more accurate than estimating one's own income quintile, for example. Thus, occupation-based groups would be more homogeneous than those based on income level. Life-course fluctuation in income has also been mentioned as weakening the reliability of income as a measure of social position, because measuring permanent instead of transitory income level is difficult (e.g., Erikson and Goldthorpe, 2002; Goldthorpe, 2010; Hauser and Warren, 1997; Hout, 1984). In sum, social classes are considered to be groups that share similar life chances due to their presumed shared level of social power, whereas income groups (or any other hierarchical dimension of status) are grouped together only on the assumption of shared, empirically-defined life chances (Breen and Rottman, 1995b; Sørensen, 2000).

However, it is both theoretically and empirically unclear whether studies on the intergenerational transmission of income and of occupation-based social class portray the same phenomenon. Naturally, both perspectives share the same goal of assessing intergenerational persistence and the inequality of opportunity. Yet conceptually, income and social class describe different aspects of stratification, and they also have a one-directional relationship: an individual's achieved income level hardly ever directly influences his or her occupation, while earnings from the occupation define the attained income level to a great extent. Only few studies have focused on the interplay between

income and social mobility by concentrating on differences between countries or on changes over time. Most of these studies do not consider income and social class to be interchangeable indicators of social position (Björklund and Jäntti, 2000; Breen et al., 2016; Erikson and Goldthorpe, 2010; cf. Blanden et al., 2013). An empirical test of the link between income and social mobility shows that they overlap up to 50 percent (Breen et al., 2016). It is therefore likely that occupation-based social class and income level measure both similar and divergent dimensions of social stratification, but more conceptual and empirical research is needed to disentangle the relationship between income and social class.

3 THE FINNISH CONTEXT

Finland was the last of the Nordic countries to implement the principles of the social democratic welfare model: the greatest expansion of social security benefits and public services occurred in the 1970s. In Nordic welfare states, welfare provision is considered to encompass the whole population universally and not only the disadvantaged groups, the goal being to provide protection, enforce social rights granted on the basis of citizenship, and minimize individuals' reliance on family and on the market. The model emphasizes wage labor both as a norm and as a source of citizens' autonomy. This aim of reaching full employment facilitated gender and family policies. Equality between men and women was originally understood as an issue of redistribution; public sector jobs were created and extensive childcare possibilities were introduced in order to enable women to participate in the labor market equally with men. Consequently, the level of state spending is relatively high to ensure funding for public employment, public services, and social benefits. (E.g., Esping-Andersen, 1990; Kettunen, 2001.)

Finland has comparatively strong social policies aimed at achieving smaller welfare differences between population groups. The economic barriers for attaining educational qualifications are few; for example, there are no tuition fees at any level of education, and students who do not live with their parents receive monthly student benefit. Universal policies include unemployment and sickness insurance, and pension plans offer protection for a decreasing of standard of living caused by changes in earnings. Moreover, tax and transfer policies support families with children (including maternity benefits, child care allowances, and single-parent supplements), and means-tested social assistance, such as a housing allowance, is provided as a last-resort guarantee for a minimum level of subsistence. Extensive social services are funded by relatively high progressive taxation.

According to different measures of the relative poverty rate, Finland is one of the European countries having the lowest proportion of poor citizens, although the relative poverty rate has increased over the last several decades (Nolan and Whelan, 2011; OECD, 2008). Cross-national studies also indicate that the level of income inequality is low in Finland compared to other countries (e.g., Brandolini and Smeeding, 2009; Fritzell et al., 2012). However, income inequality has increased in Finland since the mid-1990s, attributable partly to a tax reform that created incentives to shift labor income to capital income (Fritzell et al., 2012; Riihelä et al., 2008), and partly to the declining purchasing power of the minimum number of social benefits (Fritzell et al., 2012; Kuivalainen and Kenneth, 2011).

The Finnish educational system can be described as comprising lower differentiation and higher standardization than most other Western countries.

The nine-year long comprehensive school, compulsory to all Finns, continues until the age of 16 and is uniform for the whole age group without any tracking through a standardized curriculum. Teachers are highly educated and have high level of professional autonomy, school classes are relatively small, and no external standardized pupil testing is employed (Sahlberg, 2011). The current comprehensive school system replaced the old two-track system in the 1970s, the goal being to offer equal educational opportunity regardless of parental background. The old system assigned students to one of two tracks after four years of uniform education: the vocationally and academically oriented tracks had different content and provided different eligibility for further education.

Upper-secondary education is divided into general (or academic) and vocational tracks lasting two to four years, and completed qualifications in either track give eligibility for tertiary-level education in either Finnish polytechnic schools or universities. In 2008, for example, over 90 per cent of those finishing comprehensive school continued to upper secondary level: 49 percent of 17-year-olds enrolled in a secondary-level educational institution were attending a general (academic) school and 44 percent a vocational school, attending a vocational school being somewhat more prevalent among men (Statistics Finland, 2010). Compared to many other educational systems, vocational training in Finland is largely school-based while the share of apprenticeships remains low. Vast majority of the comprehensive and upper-secondary schools are financed and administered by municipalities. Additionally, daycare for children under school age is universally accessible and more extensively subsidized than in many other European countries (e.g., Meyers and Gornick, 2003).

The Finnish higher education system also expanded between the 1960s and 1970s, increasing the number of universities and in the late 1980s, polytechnics were introduced (Saarivirta, 2010). The proportion of Finns aged 15 or over with tertiary-level education rose from 9 to 28 percent between 1970 and 2010, and the proportion of those with no post-comprehensive schooling declined from 75 to 33 percent (Statistics Finland, 2011). Tertiary-level education was more common among men in 1970, but this gender difference was reversed during the expansion. While universities, all owned by the state, concentrate on academic education up to doctoral degrees, polytechnics (or universities of applied sciences) are private government-dependent, professionally-oriented institutions that confer mostly bachelor-level programs that last for three to four years.

Industrialization, modernization, and urbanization occurred comparatively late in Finland, the social structure remaining primarily agrarian and rural until the decades following the World War II. The growth of the service sector from the 1960s onward rapidly changed the occupational structure. In particular, the decline in the number of people employed in agriculture and forestry changed the labor-market structure noticeably as people from a farming background were pushed into manual or non-manual occupations; the number of non-manual employees grew considerably

(Statistics Finland, 2007). In 1970, 16 percent of the working-age population was categorized as farmers and 32 percent as non-manual employees. The corresponding proportions were 4 and 51 percent in 2000.

The Finnish labor market is highly regulated, and trade unions have a significant impact on the determination of wages, through such means as collective agreements. Most public sector jobs, a comparatively large section of the labor market, require a specific level of formal education. The participation rate of women in the labor force is one of the highest in Western countries, while the proportion of women in part-time jobs is one of the lowest (Genre et al., 2010; Jaumotte, 2003). Since 1980s approximately 70 percent of working-age women have been active in the labor market, and about 10 percent have a part-time job. This is the result of the dual-earner family, encouraged by the welfare state, as well as the long-standing cultural norms (Julkunen, 1999). However, the Finnish labor market is one of the most gender segregated in Europe (Bettio and Verashchagina, 2009). Men and women occupy different positions in the labor market, both hierarchically and by sector; men are not only more often placed in managerial positions, but also tend to choose fields that provide higher economic rewards (Statistics Finland, 2009). Men continue to have approximately 20 per cent higher earnings than women (Mandel and Semyonov, 2005; Nordic Council of Ministers, 2015).

4 PREVIOUS EMPIRICAL EVIDENCE

4.1 REVIEW OF PREVIOUS RESEARCH

Since the 1950s, sociologists have studied intergenerational stratification extensively. At first, the most influential studies concentrated on analyzing intergenerational mobility tables using *ad hoc* occupational classifications as the measure of social position (Lipset and Bendix, 1959; Miller, 1960). Later, the path analysis approach, which used multivariate linear regression models, was introduced, and the focus was on assessing the relative importance of parental background, education, and the offspring's first job in the status attainment process (Blau and Duncan, 1967). Measuring social position became more standardized with traditions of treating occupational structure either as discrete social classes (Goldthorpe, 1980) or as a scale of occupational status or prestige (Blau and Duncan, 1967; Treiman, 1977). Another approach, often referred to as class analysis, developed log-linear models, which enabled distinguishing relative social mobility from absolute mobility and to analyze asymmetric associations between social positions without making any assumptions about their ordering (Hauser, 1978; Hout, 1983, 1984). Log-linear modeling has been utilized widely in comparative studies (Breen, 2004a; Erikson and Goldthorpe, 1992). More recent studies have concentrated most often on comparing countries and time periods by using technically sophisticated statistical approaches and attempting to explain underlying mechanisms with the goal of uncovering causal elements.

Sociological studies in intergenerational transmission have shown that in the 1990s, the proportion of those who attained a different social class in adulthood compared to their family of origin varied between 60 and 80 percent of the working-age population in Western countries, depending on country and gender (Breen and Luijkx, 2004b). In the 1970s, the corresponding proportion was similarly estimated to be between 60 and 76 percent among men (Erikson and Goldthorpe, 1992). The Nordic countries tend to have the highest mobility rates, while the lowest rates are found in corporatist and liberal countries such as Germany and the U.K. Variation between countries has been detected to stem from different contextual characteristics, namely the educational system, the welfare system, and labor market regulation (Section 2.4.).

Economists have typically studied the association between parental and personal income. The topic attracted interest relatively late, but over the last several decades it has become a rapidly widening field of research (e.g., Aaberge et al., 2002; Blanden, 2009; Blanden et al., 2004; Bowles et al., 2005; Corak, 2006; Corak and Heisz, 1999; Ermisch et al., 2012; Smeeding et al., 2011; Solon, 1992, 2004). Most of the time, economists treat intergenerational associations as linear, which leads to results that can be expressed in a

compact matter: the correlation or elasticity between a parent's and a child's income or earnings (or more typically, a father's and a son's) (e.g., Aaberge et al., 2002; Blanden, 2009; Corak, 2006, 2013; Jäntti et al., 2007). These studies are thus concerned with the degree of association between the relative positions of parents and children within the overall income distribution. Another approach uses sibling correlations to evaluate shared living conditions (Björklund et al., 2002, 2009; Mazumder, 2008; Schnitzlein, 2013). The aim in the majority of these studies is to estimate the long-range earnings to avoid misleading interpretations of person's economic circumstances in measuring not only current status, but also economic security, stability, and prospects.

Results from previous economists' studies indicate that in the 1990s and the early 2000s, the correlation between a father's and a son's income or earnings ranged between 0.20 and 0.50, depending on the country (e.g., Aaberge et al., 2002; Corak, 2013; Jäntti et al., 2007; Solon, 2004). Studies of brother correlations report similar cross-country differences (Björklund et al., 2002, 2009; Mazumder, 2008; Schnitzlein, 2013). As in sociological studies, the lowest intergenerational correlation has been found in the Nordic countries and highest in the U.K. and the U.S.

The approaches of sociologists' and economists' rarely intersect, however. Even though they share similar aims, disagreements in concepts, theories, and methodology have narrowed the degree to which they engage with one another. Some studies have attempted to address these issues (Björklund and Jäntti, 2000; Breen et al., 2016; Erikson and Goldthorpe, 2002; Goldthorpe, 2010), but wider collaboration has yet to be achieved.

Moreover, a long history of research on the effects of parental poverty has reported how severe adversities in childhood hinder skills, behaviors, transitions, and achievements in adolescence and early adulthood, all of which precede income attainment in adulthood (e.g., Corcoran, 1995; Duncan et al., 1998, 2011; Maurin, 2002; Whelan et al., 2013; Whelan and Maître, 2005). Though poverty along with social exclusion and economic vulnerability are conceptually beyond the scope of this study, these results echo mechanisms linked to the intergenerational transmission of low income.

4.2 SOCIAL AND INCOME MOBILITY IN FINLAND

As in other Nordic countries, the level of intergenerational income mobility has been rather high in Finland compared to the U.S. and other Western societies (e.g., Björklund et al. 2002; Bratsberg et al. 2006; Jäntti et al. 2007; Österbacka 2004; Pekkala and Lucas 2007). According to previous Finnish studies using census-based register data, the relationship between parental and an offspring's income is strongest among the richest families and weakest among the poorest, and this association is stronger among men than among women (Österbacka, 2004). Moreover, the level of income mobility has

increased in Finland since World War II (Pekkala and Lucas, 2007). Additionally, Airio et al. (2004) found the risk of becoming poor in working age to be twice as high for those whose family background was poor compared to those without a poor background. Using a survey data, Airio and Niemelä (2009) also found a strengthening association from 1995 to 2005 between parental and offspring poverty and other indicators of social exclusion, such as unemployment and receipt of social assistance.

Previous studies have shown that the level of intergenerational transmission in terms of social class is also comparatively lower in Finland and other Nordic countries than in many other Western societies (Breen, 2004b; Erikson and Goldthorpe, 1992; Erola, 2009; Pöntinen, 1983), a finding that has been interpreted as a result of the social democratic welfare state. Sweden and Norway in particular have been identified as having similar levels and trends in social mobility as seen in Finland. Social mobility in Finland was thoroughly analyzed in the 1980s (Pöntinen, 1983). Studies which examined social mobility in post-World War II Finland found that the growing non-manual labor classes were mainly filled by self-employed farmers' and farm workers' children. Women in particular were occupied in service class jobs, whereas men were more likely to have manual occupations (Erola and Moisio, 2004). After the war, higher opportunities for education were available almost exclusively for children of upper white-collar fathers.

More recent studies of social mobility in Finland in the 1980s and 1990s have demonstrated that the total mobility rate, that is, the percentage of those whose social class differs from their parental origin, has stabilized at around 70 to 80 percent of the population for both men and women (e.g., Erola, 2009; Erola and Moisio, 2004, 2007; Sirniö, 2010; Sirniö et al., 2011). Studies have shown, however, a significant difference between women's and men's mobility. First, men tend to be considerably less mobile than women. Second, men, when they are mobile, are most likely to move to a position that is close to the parent's characteristics, whereas women, regardless of family origin, are more likely to occupy a service class position. Yet women still have less opportunity to gain access to the upper non-manual social class than men. The youngest cohorts appear to have stronger mobility than the older ones. The size of the "middle classes" was reported to be relatively large compared to other classes, which was a direct consequence of the structural change in the labor market, which also occurred in other industrialized countries few decades earlier. These structural changes have been shown to have had less influence on social mobility in the 1980s and 1990s than in earlier decades, and most beneficially among the youngest cohorts (Erola, 2009; Sirniö, 2010), even though gendered labor markets still have more effect on women's social mobility than men's. A recent study suggests that fathers' socioeconomic characteristics explain offspring's occupation slightly more than those of mothers', and that compared to parental occupation and income, parental education is the key predictor of offspring's occupation in Finland (Erola et al., 2016).

Research on intergenerational educational mobility in Finland has shown that still in the early 2000s, academic background was strongly predicting achieving university-level education (Kivinen et al., 2007, 2012). Parental background affects not only the level of education attained, but also the choice of educational field and institution (Nori, 2011). Nevertheless, educational mobility has increased among younger cohorts born in the 1970s (Kivinen et al., 2007, 2012; Pfeffer, 2008). In comparative perspective, Finland has been ranked as the country with the highest level of educational mobility, the average odds of having same level of personal and parental education being still clearly elevated among cohorts born between the 1930s and the 1970s (Pfeffer, 2008).

4.3 EDUCATION AS A MEDIATOR OF INTERGENERATIONAL TRANSMISSION

Previous Nordic studies have implied that not only do parental resources affect offspring's outcomes in purely economic terms, but also that parents transmit other non-economic sources of stratification (e.g., Hansen and Mastekaasa 2006; Jæger and Holm 2007). In other words, parental income may indirectly affect the income level of offspring via other socioeconomic characteristics. An achieved education contributes to intergenerational transmission of income through two processes: by producing socially patterned access to (higher) education, so that those with more affluent parents tend to obtain higher levels of education compared to their less privileged counterparts; and in differentiating the achieved labor market returns (see the OED triangle in Section 2.2).

Conceptually, as presented in Figure 1, educational achievements are the key mediator of intergenerational associations. The role of education has been widely studied among social mobility researcher since the work of Blau and Duncan (1967). The association between social origin and educational attainment is, and has been for a long time, strong in many Western societies. Since the 1960s, the educational level of most Western countries, including Finland, has risen noticeably. On the one hand, this has weakened the parental background effect on educational achievement, while, on the other hand, it has reduced the gender differences in educational attainment, so that currently intergenerational patterns in education seem to be rather similar between men and women (Breen et al., 2009, 2010; Breen and Jonsson, 2005). Previous studies have indicated that the effect of social background on educational achievement is similar or even stronger in the Nordic countries than in other Western countries, even though schooling is state financed and thus less dependent on parental economic resources (Breen et al., 2010; Triventi, 2013). Moreover, income and other labor market outcomes have been shown to be higher among those with more affluent parental backgrounds, even when controlling for the achieved educational level (e.g., Bukodi and Goldthorpe

2011; Hansen 2001; Härkönen and Bihagen 2011; Mastekaasa 2011; Ortiz and Wolbers 2013; Vallet 2004).

An extensive body of literature shows that the association between parental and offspring's social class is clearly mediated by the education obtained (e.g., Breen and Goldthorpe, 2001; Breen and Jonsson, 2007; Breen and Luijkx, 2004a, 2007; Erola, 2009; Ishida et al., 1995; Jackson et al., 2008; Pfeffer and Hertel, 2015; Saar, 2010; Torche, 2011). Specific emphasis has also been given to empirically investigate the accuracy of the theories concerning primary and secondary effects of educational attainment (e.g., Erikson and Rudolphi, 2010; Jackson et al., 2007; Karlson, 2013; Kloosterman et al., 2009; Schindler and Lörz, 2012), relative risk aversion (e.g., Breen et al., 2014; Breen and Yaish, 2006; Davies et al., 2002; Holm and Jæger, 2008; Van de Werfhorst and Hofstede, 2007), effectively maintained inequality (e.g., Boliver, 2010; Davies and Guppy, 1997; Hällsten, 2010; Marks, 2013; Thomsen, 2015), and cultural reproduction (e.g., Andersen and Hansen, 2012; Andersen and Jæger, 2015; De Graaf et al., 2000; Dumais, 2002; Sullivan, 2001; Van de Werfhorst and Hofstede, 2007). The role of education as a mediator between parental and offspring's income has also been reported (Blanden et al., 2007, 2011; Chetty et al., 2014; Gregg et al., 2013; Österbacka, 2001; Pekkala and Lucas, 2007), thus confirming that the intergenerational transmission of income level is accounted for by the level of the achieved education of the child. The cross-country differences seem to be somewhat larger in terms of intergenerational transmission of social class compared to the transmission of income, though studies on social class encompass more countries than studies on income.

In Finland, Erola (2009) discovered that within Finnish cohorts born between the 1930s and the 1970s, the association between parental and offspring's social class was substantially mediated by the offspring's educational level. Another study on intergenerational transmission of income shows that the mediating effect of parental investments in the schooling of offspring has decreased over the cohorts born between the 1930s and the 1970s (Pekkala and Lucas, 2007). Both studies reveal, however, that cohort differences cannot be explained solely by education; in other words, factors other than education have an impact on the association between parental origin and personal socioeconomic position. Erola's study (2009) also found some indication of declining social inheritance through credential inflation among women due to educational expansion. Pekkarinen et al. (2009) observed that the relationship between the paternal and the offspring's levels of earnings diminished 23 per cent after the Finnish comprehensive school reform in the 1970s.

4.4 THE ROLE OF OTHER SOCIO-DEMOGRAPHIC CHARACTERISTICS

In addition to educational achievements, other socioeconomic and demographic characteristics have been shown to explain or mediate the association between parental and offspring's income. Intergenerational income transmission is closely linked to occupation and social class, which reflect a dimension of resources that income does not depict. The role of social class may have changed over time; the diminishing agricultural sector and the expanding industrial and service sectors after World War I have increased the number of economically atypical occupations within social classes (Bihagen 2005; see also Weeden et al. 2007). Previous studies indicate that variation in income within social classes has increased, and moreover, income differences between social classes have widened (Bihagen, 2005; Goldthorpe and McKnight, 2006; Weeden et al., 2007; Van de Werfhorst, 2007). Thus, occupation-based social class determines income less noticeably among younger cohorts than among older cohorts. However, in predicting children's status attainment, the effects of parental social class and income can also coexist independently (Björklund and Jäntti, 2000); in other words, if the increasing within-class variation of incomes has been generated by factors that are not associated with social class, then the results may show that no change across cohorts occurs in intergenerational persistence in terms of social class but does occur in terms of income (Erikson and Goldthorpe, 2010). Yet a recent Finnish study suggested that parental social class predicts the offspring's occupational class more clearly than parental income, yet the effect of parental income strengthened as the children became older (Erola, 2012).

The demographic characteristics of the family of origin have been proven to have an association with the offspring's socioeconomic attainment. A stronger association between parental and offspring's socioeconomic characteristics has been traced among children originating from divorced or single-parent households as opposed to dual-earner families (Bernardi and Radl, 2014; Björklund and Chadwick, 2003; McLanahan and Sandefur, 1994; Steele et al., 2009). Children from single-parent families with female headship are also more likely to become poor than are children from two-parent families (Musick and Mare, 2006). The offspring's family structure also plays a role in status attainment processes, although the role is multifaceted. Low parental background increases the risk of partnership dissolution (e.g., Lyngstad, 2006), which in turn affects the risk of economic hardship; according to Vandecasteele (2011), the poverty risk in Western Europe is highest among single women and single mothers. Also having children at a young age is associated with lower socioeconomic attainment in later adulthood (Dariotis et al., 2011; Hobcraft and Kiernan, 2001; Lee, 2010; Sigle-Rushton, 2005).

As expected, a number of other confounding factors can interfere with intergenerational transmission of status. Studies on the role of cognitive skills in mediating intergenerational transmission show that intelligence scores,

measured as several dimensions of mental ability that facilitates school performance and other socioeconomic attainment and at different stages in life, are linked to parental background (e.g., Blanden et al., 2007; Duncan et al., 2012; Johnson et al., 2010; Mood et al., 2012; Nettle, 2003; Warren et al., 2002). Obviously, genetic heritability, though moderated by environmental factors, also plays a significant role in intergenerational transmission (e.g., Björklund et al., 2005; Conley et al., 2015; Jencks and Tach, 2006), and parenting practices mediate the association between family of origin and status attainment (e.g., Astone and McLanahan, 1991; Ermisch, 2008; Lareau, 2002; Roksa and Potter, 2011). All of these factors, however, are beyond the scope of this study.

4.5 IDENTIFIED GAPS IN PREVIOUS RESEARCH

Studies of the intergenerational transmission of social position conducted by sociologists have concentrated extensively on the association between the ascribed social class of the parental origin and the achieved social class of the offspring. Without challenging the benefits of using occupational-based social class as the indicator of social position, including other indicators in the sociological framework on research into intergenerational inequalities will provide new understanding of the underlying processes.

Studies of income mobility carried out by economists inherently assume the linearity of the association between parental and offspring's earnings by creating summary measures to describe that association. Yet, first of all, these studies do not take into account that the effect of the parental background varies across income distribution. This variation has been revealed to be a particular feature of Nordic countries where, compared to the U.S. and the U.K., nonlinearities have been found (Bratsberg et al., 2007). Intergenerational income mobility has been shown to be lower at one or both ends of the income-distribution scale (Bratberg et al., 2007; Jäntti et al., 2007). Second, the commonly used measures do not differentiate between upward mobility and downward mobility (Corak et al., 2014). In particular, the chances of those with less advantageous family backgrounds attaining a higher position than the parental family is an important dimension of society's openness. These asymmetries in the relationship between parental and offspring's achieved income levels call for more detailed study of the patterns and determinants of both low and high incomes. From a sociological perspective, elasticity and other linear summary measures of the association between parental and offspring income levels may be restrictive (they may be heavily driven by effects at some part of the income distribution, for example) and may not reveal all the nuances in the underlying mechanisms.

Gradually, the multidimensionality of social position has been recognized, and suggestions have been made to include multiple instead of single indicators of parental characteristics in research on intergenerational mobility

(e.g., Bukodi and Goldthorpe, 2013; Jæger and Holm, 2007; Marks, 2011; Weeden and Grusky, 2012). A multidimensional approach to stratification takes into account the fact that different absolute and relative socioeconomic indicators are not necessarily interchangeable, but measure varying resources which create deviating life styles and chances. However, few previous studies have simultaneously assessed the contribution of other social and family characteristics to the relationship between parental and personal income. Prior research on income mobility has generally concentrated only on the association between a father's and offspring's earnings without accounting for other social factors that characterize the family background or for the offspring's personal achievements during young adulthood. Moreover, many studies on social class mobility do not take into account parents' and offspring's characteristics that are equally important as occupation.

Gender differences are still inadequately covered in stratification research. This is especially clear among economists' studies in which males dominate as the study population. Lack of proper data has probably hindered obtaining reliable information on women's income and other socioeconomic characteristics. Another reason for the relatively fewer studies that concentrate on comparing men and women is probably the low rate of female participation in the labor force in many countries, which makes determining women's social position more complicated. On the other hand, previous studies have argued that studying women is less relevant, given that their social position is defined as their spousal position, and that since women's social mobility is linked to marriage, the study of intergenerational transmission among men is fundamentally a study of women as well (Erikson and Goldthorpe, 1992). This approach has been largely disregarded today (Beller, 2009) but evidence for and theoretical explanations of gender issues are still incomplete.

5 THE AIMS OF THE STUDY

The aim of this study was to estimate how ascribed socioeconomic characteristics of parental background and transitions during early adulthood are associated with offspring's achieved income level in adulthood. The study is set in Finland in the 1990s and the first decade of the twenty-first century. Specific emphasis was given to parental income as a predictor of offspring's income in adulthood. Given that previous studies have indicated that the association between parental and offspring's income is particularly strong at the ends of the income distribution, the overall objective of this study was to study those with the lowest and those with the highest income levels. All research questions are answered by gender.

The study addressed the following specific questions:

- 1) To what extent does parental income predict entering the lowest and the highest income levels in adulthood? (Sub-studies I, II, IV)
- 2) To what extent do parental and offspring's personal socioeconomic and demographic characteristics explain or mediate the relationship between parental and offspring's income? (Sub-studies I, II, III)
- 3) Does the association between parental income and the offspring's personal income differ across birth cohorts? (Sub-study II)
- 4) Does the association between parental income and their offspring's income vary over the course of the career of the offspring? (Sub-study III)
- 5) Do the effects of transitions on the offspring's personal income during the life course differ between parental income groups? (Sub-studies I, III, IV)

The empirical framework for this study is demonstrated in Figure 3. The novel initiative here was to apply the theoretical concept of socioeconomic attainment to income, especially to the lowest and the highest income levels. In light of the gaps identified in previous research (Section 4.5.), the specific emphasis here was to illustrate intergenerational transmission among those entering the lowest or the highest income levels (Research Question 1) in order to provide more insight into the nonlinear association. Focusing on both ends of the stratification enabled to capture the actual affluent and disadvantaged population sub-groups in a precise manner. Since the distributions of lowest and highest income ranking do not change over time, the research setting is comparable over time and across cohorts.

The contribution of multiple parental and offspring's socioeconomic and demographic characteristics was analyzed (RQ 2) for the purpose of illustrating the underlying mechanisms in more detail. The register-based data

set used was ideal in that it yielded unbiased information on income and other socioeconomic and demographic characteristics without reporting bias or loss to follow-up. Thus, a multidimensional approach to stratification was applied with the intention of depicting the role of different parental resources.

Because the intergenerational transmission of income may be subject to societal changes, cohort effects were addressed (RQ 3). Societal changes such as modernization, educational expansion, changes in welfare-state policies, and macroeconomic conditions shape the labor-market structure and social stratification. Given that these changes affect the opportunities that each birth cohort face, studying cohort differences in intergenerational transmission reveals the role of contextual conditions in intergenerational processes.

This study also combined the classical study of intergenerational mobility with a study of intragenerational mobility with a focus on the life course (RQ 4). It is likely that family background not only affects the level of the labor market outcomes, but also their developmental trends and the events over the life course preceding the outcomes. Longitudinal analysis represents a new approach in the sociological research on status attainment in which repeated data enables researchers to capture the intergenerational effects over the course of young adulthood and the later career.

Another new approach in this study was to focus on interactions between parental income and transitions over the life course in order to map subgroups' chances in income attainment (RQ 5). By studying the joint effects of parental background and early-adulthood transitions on adult outcomes, this dissertation sheds new light on the buffering effect of the family of origin, namely, whether parental resources are able to reduce the influence of unfavorable early-adulthood events on adult outcomes.

All analyses were conducted separately for men and women in order to describe accurately whether intergenerational transmission of income differs between genders. The high participation rate of women in the labor market in Finland (Jaumotte, 2003) allowed reliable comparison between women and men. Family formation patterns, interconnected with achieved educational level, are noticeably gendered (Nisén et al., 2013) and especially affect women's income attainment. Because men's and women's labor markets and family formation patterns are not alike it was essential to study men and women separately.

Finland offered a unique chance to examine whether a Nordic welfare state is able to reduce intergenerational inequalities and whether the mechanisms of intergenerational transmission differ from other welfare states. In spite of the generous universal policies and benefits, prior research on intergenerational transmission in Finland and other Nordic countries (e.g., Hansen and Mastekaasa, 2006; Jæger and Holm, 2007; Österbacka, 2004) shows strong intergenerational persistence that is not based solely on using the family of origin's financial resources, but also involves other resources that play an important role.

Furthermore, in a traditional approach to studying intergenerational transmission, the conceptualization of childhood living conditions is operationalized as the social position of the dominant breadwinner in the family, typically the father (e.g., Goldthorpe, 1987). According to Sørensen (2000), however, life conditions cannot be appropriately defined at the individual level (see also DiPrete, 2002). For Sørensen, childhood living conditions refer first and foremost to a child's welfare and well-being, as well as to the economic opportunities, all of which are fundamentally shaped by material standards of living, in other words, the family's income. The standard of living is dependent on the number of people living in the same household utilizing the same resources. By concentrating not only on the breadwinner of the family of origin, but also by taking into account the incomes of other adults in the household, a more reliable measurement of childhood living conditions can be achieved. The income of the adults in the household other than the breadwinner can improve a family's standard of living and provide insurance against income instability (DiPrete, 2002). In line with this reasoning, the present study operationalized family background, and thereby the prevailing living conditions in childhood, as equivalized household-level parental income, while it also addresses the contribution of other measures of one's origin. Measuring parental background as equivalized household-level income is a means of capturing the actual total resources of the family of origin that influence children's life chances.

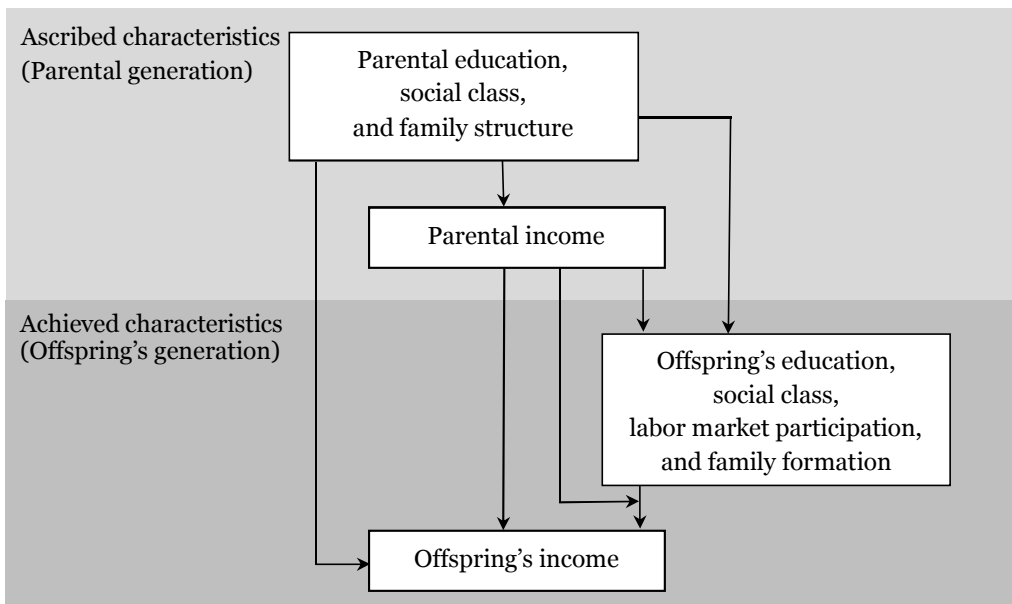


Figure 3. The empirical framework: Measures and associations under scrutiny in this study.

6 DATA AND METHODS

6.1 DATA AND STUDY POPULATION

A unique longitudinal register-based data-set containing information from various administrative registers was used in this study. The data were obtained from Statistics Finland, and the information was combined with data from the longitudinal population census register, employment statistics data files, and the mortality register. The linkage was done with the help of personal identification numbers. The data include individual and household-level information about each individual's employment, education, family, and housing. The data comprise a representative 11 percent sample of the whole population residing in Finland for at least one year during the period from the end of 1987 to 2007. Such data have been produced annually between 1987 and 2007, as well as at five-year intervals between 1970 and 1985. For Sub-studies II and IV, an additional update was included, covering the years between 2008 and 2012.

The cohorts under scrutiny in each sub-study are presented in Table 1. In Sub-study I, those born between 1973 and 1976 were included in the study population (24,839 persons). In Sub-study II, cohorts born between 1956 and 1958, 1961 and 1963, 1966 and 1968, 1971 and 1973, and between 1976 and 1978 were selected for the cohort comparison (106,180 persons). Sub-study III concentrated on those who graduated from any educational institution between 1995 and 2000 (275,828 person years). Sub-study IV focused on birth cohorts born between 1972 and 1975 (24,030 persons).

All sub-studies assessed the association between parental and offspring's personal income. Parental income was measured in all sub-studies when the offspring were between 12 and 15 years of age. The offspring's personal income was measured between the ages of 29 and 34 in Sub-study I, between 32 and 36 in Sub-study II, and between 35 and 37 in Sub-study IV. The age of the income level assessment was chosen mainly by taking into account data availability. In Sub-study III, eight consecutive post-graduation amounts of annual personal income were analyzed. A different set of explanatory and mediatory effects were studied in all sub-studies to assess the contribution of parental and offspring's socioeconomic and demographic characteristics to the association between parental and offspring's income (Table 1).

Subjects are linked to their parents on the basis of a shared permanent place of residence. Thus, subjects living in the parental home with one or two adults had information on parental or the household's characteristics. In all sub-studies, those who were not living in the parental home when parental measurements were taken (institutionalized children and those who had left the parental home early, for example), and those with missing information about personal income in adulthood (typically institutionalized adults) were

excluded. Other parental characteristics with the exception of income were assessed when the subjects were between 10 and 17 years of age, depending on the sub-study; in other words, at the age when educational decisions are made.

Data collection information along with quality descriptions are available from Statistics Finland. Statistics Finland performed the data linkage and removed all identification information about the individuals.

6.2 MEASUREMENT OF INCOME

Information on income was obtained from the Finnish Tax Administration database based on tax files of the National Board of Inland Revenue. This is a significant benefit, because while many previous studies relied on surveys, as emphasized by Hauser and Warren (1997), people are much less willing to reveal their income to an interviewer than their occupation, for example. It is even more difficult to obtain accurate information about parents' income by means of retrospective interview questions. The income variable in this study incorporates the annual sum of all forms of income that are subject to state taxation. This includes wages, capital income, and taxable income transfers such as unemployment benefits. Some income transfers, such as social assistance and housing allowance, are not subject to tax, however, and are thus not included in the measure.

Table 1 shows how personal income was measured in each sub-study. Household-level income was used as a measure of parental income in all sub-studies and as a measure of offspring's personal income in Sub-study I. The measure was adjusted for household size and composition by dividing the household income by the number of consumption units; the reference person in the family (i.e., the person with the highest personal income) was counted as one consumption unit, everyone else over the age of 17 was counted as 0.7 units, and children under the age of 18 was counted as 0.5 units (corresponding to the OECD equivalence scale). This equivalized measure takes household composition into account, which makes it an accurate indicator of the family's standard of living. Individual-level income was used as a measure of personal income in Sub-studies II, III, and IV. Individual-level income indicates an individual's personal social position unrelated to household and is thus not dependent on partner selection or childbearing. Using both household-level (Sub-study I) and individual-level (Sub-studies II, III, and IV) income as the operationalization of achieved ranking in the income distribution enabled estimating the role of assortative mating in intergenerational income transmission, which tends to skew especially the assessment of women's income attainment.

In Sub-studies I, II, and IV, the level of personal income was calculated as the mean of three consecutive annual income amounts in order to increase the reliability of the income measurement, especially in comparisons between genders. Also individuals with zero taxable income were included in the lowest

income category, as they are typically recipients of social security payments. Even though there were some reforms in taxation during the study period of Sub-studies II and III, the changes did not influence the distribution of income relative to others enough to bias the comparability of the income measures over time.

A relative measurement of ranking in income distribution, i.e., income deciles and quintiles, was used in all sub-studies. In other words, the results reflect transition rates between the parts of the income distribution that are not affected by absolute distances in income amounts. Using income ranking facilitates a description of income as a relative societal position and allows study of differential mobility rates across the distribution of incomes. This might not be revealed with the elasticity measurements commonly used by economists. It also eliminates bias attributable to temporal changes in monetary value and allows a comparable perspective on income ranking over time in Sub-studies II and III. In Sub-studies I, II, and IV, the relative ranking of personal income was calculated from the income distribution of the cohorts under scrutiny, whereas in Sub-study III, the income groups were derived from the entire working-age population.

6.3 OTHER SOCIOECONOMIC AND DEMOGRAPHIC VARIABLES

The use of different socioeconomic variables in each sub-study is presented in Table 1.

Social class divides the study population into categories according to their social and economic features. The data include information at five-year intervals on personal social class and on household, paternal, and maternal social class. The classes were formed using several different criteria, such as occupation, economic activity (home based, student, economically active, pensioner), and employment status (self-employed, employee). The classification is very similar to the Erikson-Goldthorpe class schema (Erikson and Goldthorpe, 1992).

In Sub-study I, the categories for both offspring and parental social class are: (1) upper non-manual, (2) lower non-manual, (3) skilled manual, (4) unskilled manual, (5) farmers, (6) self-employed, and (7) students and others (including the long-term unemployed and homemakers, for example). In Sub-study II, parents with a social class of student or others were excluded.

Education is based on the highest educational qualifications or certificate. The variable is available in the data for all individuals and their fathers, mothers, and partners.

In Sub-studies I and II, five categories were used for both parental and offspring's education: (1) the basic level (about 9 years) includes people with

no non-compulsory education; (2) the upper-secondary level includes those who have taken the matriculation examination (i.e., the final examination in academic upper-secondary school) or who have undergone vocational training lasting three years or less; (3) the lowest level of tertiary education, meaning those with vocational training lasting two or three years after upper-secondary education, but without earning a polytechnic degree; (4) lower degree-level tertiary education includes those with bachelor's degrees from universities and polytechnics requiring three or four years of education after upper-secondary school, and (5) higher degree-level tertiary education (master's and doctoral degrees from universities). In Sub-studies III and IV, the third and fourth categories are collapsed. In Sub-study IV, a partner's education is operationalized as the concordance between the partners' education by defining whether the individual's partner had the same educational level compared to the individual's own (1), whether the partner had a higher (2) or lower (3) level of education compared to the individual, or whether the individual did not have a partner (4).

In Sub-study III, the personal *educational field* was used as a control variable. Its categories are (1) general education, (2) education, (3) humanities and the arts, (4) social sciences, (5) business and law, (6) natural sciences, (7) technology, (8) agriculture, (9) health and welfare, and (10) services.

Labor market participation is based on the length of experienced unemployment or annual main economic activity, and is included in the analysis at the personal level. In Sub-study I, the unemployment measure is divided into three categories: (1) no unemployment, (2) between one and six months of unemployment, and (3) more than six months of unemployment during the period under study. In Sub-study III, the variable indicating unemployment was included both as a total number of months of unemployment during the follow-up and as a time-varying (annual) covariate. In Sub-study IV, the measure for long-term unemployment reflects the number of calendar years in which the individual was registered as unemployed for at least six months between the ages of 16 and 34.

Family structure is defined according to the family characteristics and the marital status of the head of the household for both the parental home and the parents' children in adulthood. In Sub-study I, the variable is categorized as (1) couples (married or cohabiting) with no more than two children, (2) couples (married or cohabiting) with more than two children and (3) single-parent households in the parental family, and their children's own family in adulthood defined as (1) single parents, (2) couples (married or cohabiting) with children, (3) couples without children and (4) those living alone. In Sub-study III, a variable indicating the *number of children* in the family of the subject is included as a covariate indicating the total number of children at the end of the follow-up and as a time-varying (annual) covariate. In Sub-study

IV, *age at having first child* was included to identify timing differences in family formation.

6.4 STATISTICAL METHODS

In Sub-studies I and II, total, downward, and upward mobility rates were calculated from mobility tables to show the descriptive information on the association between parental and offspring's income. Mobility tables are cross-tabulations of origins (parental income groups) and destinations (offspring's income groups) with cells containing the frequencies of each combination. The total mobility rate refers to the share of the population occupying an income group different from an individual's parents; the downward mobility rate indicates the share of those occupying a lower income group than the individual's parents, and the upward mobility rate refers to those occupying a higher income group than the individual's parents.

Further analyses in Sub-studies I and II were based on binary logistic regression modeling, implementing the KHB method (Karlson et al., 2012). Logistic regression enables estimating the effect of parental income on entering the lowest and highest income quintiles in adulthood. In Sub-study I, multiple variables describing parental and offspring socioeconomic and demographic characteristics were included to depict explanatory and mediating effects. In Sub-study II, five cohorts were compared and socioeconomic variables added to describe cohort trends in intergenerational income transmission.

The results of the models in Sub-study I were presented as odds ratios, the first category of each explanatory and mediating variable being the reference group with an OR of 1.00. Odds ratios are comparable across nested models, since the KHB method (Karlson et al., 2012) was used. When estimating models with nonlinear outcomes, such as the binary income group, a rescaling of the model after including additional covariates is likely to cause the unobserved heterogeneity to vary across models (Mood, 2010). For this reason, the interpretation of differences in coefficients between nested models is biased if the impact of rescaling is not taken into account. The KHB method provides a solution to this problem by fixing the residual variance on the same scale.

In Sub-study II, results from logistic regression models were presented as average marginal effects (AME) that are discrete change effects calculated from adjusted predictions of the model. These indicate predicted differences in the probability of the outcome between reference and other categories. Average marginal effects are population-averaged effects that offer a reliable way to compare estimates across groups, as unobserved heterogeneity does not bias them (Mood, 2010).

In addition, in both Sub-studies I and II attribution percentages were calculated between parameter estimates (β) in different nested logistic

regression models as $\frac{(\beta_{yx} - \beta_{yx:z})}{\beta_{yx}} \times 100\%$, where x, y, and z denote the key, outcome, and predictor variables respectively (Karlson et al., 2012). The attribution percentage refers to the fraction of the association between parental income and offspring income, which is either explained or mediated by a predictor variable included in the model.

Ordinary least squares (OLS) linear regression modeling and repeated measures linear regression implementing the method of generalized estimation equations (GEE) were used in Sub-study III. First, OLS was used to estimate the effect of parental income and offspring's personal education on offspring's income measured as a mean annual income percentile of eight consecutive post-graduation years. In order to take into account the within-subject correlation of income observations, the GEE method was introduced to analyze the temporal trend in post-graduation income attainment. The method allowed the use of a time-varying indicator of income to estimate the occurrence and trend in income development. The annual income level was measured for eight years after graduation, including each year as a separate dummy variable. The GEE method estimates population-averaged effects taking into account within-subject correlation. Unstructured correlation structure was used which places no constraints on this correlation.

In Sub-study IV, generalized ordered logit modeling (Williams, 2006) was applied. The method enables modeling ordinal dependent variables; thus, income quintiles were used as the outcome variable. Likelihood-ratio tests were implemented to test whether the parameters in the models met the parallel-lines assumption (which refers to the correlation between the independent and dependent variable and is the same for all categories of dependent variable). According to the test, either a partial proportional odds model or a fully unconstrained model was used. The former refers to a model in which some parameters were constrained and the latter to a model in which no parameters were constrained to meet the parallel-lines assumption. The results were presented as average marginal effects (AME) and adjusted predicted probabilities (PP).

All analyses were performed separately for men and women on the assumption that the effects of parental background and life-course transitions on income differ by gender. Stata 11 and 12 (StataCorp, 2009, 2011) were used for all the analyses.

Table 1. Main characteristics of Sub-studies I-IV.

	Sub-study			
	I	II	III	IV
Birth cohorts	1973–76	1956–58, 1961–63, 1966–68, 1971–73, and 1976–78		1972–75
Graduation cohorts			1995–2000	
N	24,839	106,180	32,412	24,030
Person-years			275,828	
Measurement of parental income	Household-level quintiles of annual income	Household-level deciles of annual income (middle 40% collapsed)	Lowest and highest household-level quintiles of annual income	Household-level quintiles of annual income
Timing of parental-income measurement	Three-year mean within the age range 14–17	Three-year mean within the age range 12–14	One-year measurement within the age range 10–14	Three-year mean within the age range 10–16
Measurement of personal income	Lowest and highest household-level quintiles of annual income	Lowest and highest individual-level deciles of annual income	Individual-level annual income percentiles	Individual-level income quintiles of annual income
Timing of personal-income measurement	Three-year mean within the age range 29–34	Three-year mean within the age range 32–36	Eight consecutive years after graduation	Three-year mean within the age range 35–37
Parental characteristics	Household income, maternal and paternal education, maternal and paternal social class, family structure	Household income, social class	Household income	Household income
Personal characteristics	Education, social class, unemployment, family structure, age	Education, age	Education, unemployment, number of children, student status, educational field, age	Education, long-term unemployment spells, age at having first child, birth year
Methods	Binary logistic regression analysis (KHB macro)	Binary logistic regression analysis (KHB macro)	Linear regression analysis using OLS and generalized estimation equations (GEE)	Generalized ordered logit

7 RESULTS

7.1 TRANSMISSION OF THE LOWEST AND HIGHEST LEVELS OF INCOME

The first aim of this dissertation was to show the extent to which parental income predicts an offspring's entering the lowest or highest income levels in adulthood. Mobility tables in Sub-studies I and II and modeling results in Sub-study IV show that intergenerational transmission of income was most pronounced among those in the highest and the lowest income levels as compared to the other income levels. This applies from the 1990s till the early

Table 2. Transition matrices describing income mobility (in percentages): men and women at age 32 to 36 and born between 1976 and 1978.

Parental income level ²	Personal income level ¹							Total	N
	Bottom 10 %	2 nd decile	3 rd decile	Middle 40%	8 th decile	9 th decile	Top 10%		
Men									
Top 10%	7.6	5.2	4.5	23.0	11.0	16.0	32.8	100.0	928
9 th decile	6.3	4.3	4.5	34.2	13.6	14.8	22.4	100.0	891
8 th decile	5.4	4.0	4.8	34.8	12.8	18.2	20.0	100.0	921
Middle 40%	6.2	4.7	5.9	39.5	13.6	16.1	14.1	100.0	3,762
3 rd decile	6.7	7.1	7.0	42.1	13.1	12.8	11.2	100.0	976
2 nd decile	9.6	7.8	6.7	40.0	13.3	13.4	9.1	100.0	941
Bottom 10 %	10.6	7.4	6.5	43.4	13.6	9.5	9.0	100.0	979
Total	7.1	5.4	5.7	37.4	13.2	14.9	16.2	100.0	9,398
Women									
Top 10%	7.3	11.6	11.5	40.1	10.0	9.6	9.9	100.0	959
9 th decile	8.0	10.7	13.3	45.4	9.5	6.6	6.5	100.0	995
8 th decile	8.7	13.4	12.6	44.7	9.6	5.7	5.4	100.0	965
Middle 40%	10.8	14.0	14.8	45.5	6.5	5.1	3.3	100.0	3,786
3 rd decile	14.0	16.0	13.3	44.5	6.3	3.8	2.2	100.0	916
2 nd decile	15.2	17.1	15.9	41.0	5.4	3.3	2.2	100.0	936
Bottom 10 %	18.9	18.5	16.8	36.0	4.3	3.8	1.7	100.0	905
Total	11.6	14.4	14.3	43.3	7.1	5.3	4.1	100.0	9,462

¹Calculated as a mean of three consecutive annual amounts of individual-level income.

²Calculated as an annual amount of equivalized household-level income in 1990 when offspring were 12 to 14 years of age and living in the parental home.

2010s to those in their early 30s. Table 2 presents a mobility table for the youngest cohort examined in Sub-study II: 10 percent of men and 19 percent of women from low-income parental backgrounds (the lowest decile) entered the same income decile in adulthood, calculated as individual-level taxable income. Thirty-three percent of men and 10 percent of women originating in families in the highest income decile entered the corresponding income level in adulthood. The same pattern was found among older cohorts (born between 1956 and 1971) as well as in Sub-study I, in which the association between parental and offspring household income was examined.

This persistence at both ends of the diagonal in the mobility table may be affected by ceiling and floor effects, however. A higher level of income than the parental level is not possible when the subject originates from the highest parental income decile; the same holds true at the lower end of the income distribution. Nevertheless, persistence in the second and third decile was also strong among women, and persistence in the eighth and ninth decile was strong among men. Thus, the transmission of low income appeared to be particularly distinct among women as well the transmission of high income among men. This was further demonstrated in Sub-study IV: Figure 4 shows

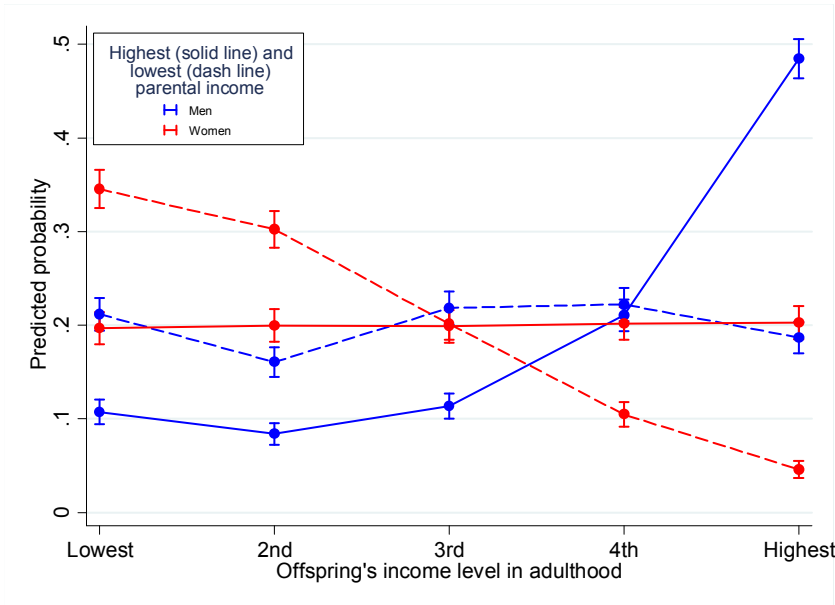


Figure 4. Age-adjusted predicted probabilities (with 95% confidence intervals) for entry into income quintiles among those with the highest and the lowest parental income. Men (blue) and women (red) at age 35 to 37 and born between 1972 and 1975.

Notes: Results from a partial proportional odds model (generalized ordered logit) adjusted for year of birth. According to Wald's test ($p < 0.05$), the parallel-lines constraint is relaxed for the highest parental income group and for gender.

clearly that the difference between parental income groups is most distinct in the entry into the highest income level compared to the lowest among men, whereas the difference is more symmetrical among women.

Modeling the association between parental and offspring's income in all sub-studies also demonstrated that offspring in the lowest and the highest parental-income levels differed significantly from those in the middle. The results further showed that entering the highest income group from a lower parental income group was more restricted than entering the lowest income group from a higher income group (Table 3), especially among women. In other words, the effect of parental income on entering the highest income level in adulthood is stronger than its effect on entering the lowest income level.

Overall, if measured at the individual level, the lowest income for offspring is more common among women, and men enter the highest income level more often than women. This was clearly illustrated in Sub-study III (Figure 6), which examined income attainment after graduation; women's income levels stabilized quickly, whereas among men the advancement continued throughout the eight years of follow-up. Fewer gender differences were found when income was measured at the household level in terms of the proportion of women and men in the lowest and the highest quintiles or deciles. This measure also shows differences in the results concerning intergenerational transmission. Compared to the individual-level measurement of income (Sub-studies II and IV), the household-level offspring income depicted in Table 3 showed differences between parental income groups that were more elevated in their entry into the highest income level among women and in entry into the lowest income level among men (Sub-study I). The household-level measurement of offspring income also reduced the differentials among high-income men and low-income women. The results concerning household-level offspring income, however, incorporate assortative mating and family formation, whereas individual-level income is a more direct operationalization of an individual's position in the labor market.

7.2 ADJUSTMENTS FOR INDIVIDUAL AND PARENTAL CHARACTERISTICS

The second research question of this study addresses the role of parental and individual socioeconomic and demographic characteristics in the association between parental and offspring income. The results show that the intergenerational persistence in the highest and lowest income levels was partly explained and mediated by parental social class and education along with offspring's education, social class, family structure, and unemployment history. Sub-study I examined these mechanisms by concentrating on household-level income quintiles. In entry into the lowest income quintile, the

Table 3. Odds ratios for entry into the lowest and the highest income level (quintile) for men and women ages 29 to 32 between the years 2003 and 2007.

			Model				Attenuation from model 0 to 3
		Parental income level	0	1	2	3	
Entry into the lowest income level	MEN	Highest	1.00	1.00	1.00	1.00	
		4 th	1.46***	1.28*	1.25*	1.20	50.8%
		3 rd	1.76***	1.45**	1.33**	1.25*	57.8%
		2 nd	2.28***	1.83***	1.60***	1.45**	54.6%
		Lowest	4.54***	3.63***	2.9***	2.54***	38.3%
	WOMEN	Highest	1.00	1.00	1.00	1.00	
		4 th	1.45***	1.30**	1.15	1.08	78.3%
		3 rd	2.04***	1.72***	1.4***	1.27*	66.8%
		2 nd	2.84***	2.34***	1.66***	1.42**	66.3%
		Lowest	4.24***	3.53***	2.08***	1.71***	32.7%
Entry into the highest income level	MEN	Highest	1.00	1.00	1.00	1.00	
		4 th	0.42***	0.61***	0.61***	0.66***	59.7 %
		3 rd	0.33***	0.55***	0.54***	0.62***	63.7 %
		2 nd	0.23***	0.38***	0.38***	0.45***	55.1 %
		Lowest	0.17***	0.29***	0.28***	0.37***	53.0 %
	WOMEN	Highest	1.00	1.00	1.00	1.00	
		4 th	0.44***	0.61***	0.62***	0.67***	60.7 %
		3 rd	0.25***	0.40***	0.41***	0.48***	54.5 %
		2 nd	0.21***	0.33***	0.35***	0.45***	60.6 %
		Lowest	0.15***	0.22***	0.24***	0.37***	58.2 %

Model 0: Age-adjusted.

Model 1: Adjusted for age, parental social class, parental educational level, and structure of the parental family.

Model 2: Model 1 + adjusted for individual social class and level of education.

Model 3: Model 2 + adjusted for individual unemployment and individual family structure.

Notes: *p < .05 **p < .01 ***p < .001. Attenuation percentages are calculated from logit-scale coefficients. The outcome variable is measured as household-level income. The models were additionally tested including income measurement derived from individual-level income instead of household-level income. The results showed that, in examining entry into the lowest income level, the intergenerational association was slightly weaker when individual-level income was used as opposed to household-level income. The models were also tested on those entering below the poverty threshold (OECD scale) instead of the lowest income quintile, as well as on those entering the highest income decile instead of the highest quintile. The results proved to be very similar to those presented in this table.

share of the intergenerational association explained by other characteristics was weaker, the lower the parental income (Table 3, Sub-study I), ranging between 38 and 58 percent among men and between 33 and 77 percent among women. Compared to the entry into the lowest income, the attenuation in achieving the highest income created by controlled variables was more constant among all parental income groups and both genders, ranging between 53 and 61 percent.

After adjustments for parental social class, education, family structure and offspring's social class, education, family structure and unemployment history, the association between parental income and entering the lowest income level was slightly stronger for men than for women, whereas there was less gender discrepancy with regard to entering the highest income level. The association between parental and offspring's income level among men was attributable mostly to parental characteristics, whereas for women the association was more distinctly mediated through personal characteristics. First, adjustments for parental social class, education, and family structure (model 1) attenuated the association between parental and offspring income by 5 to 31 percent, depending on parental income group. Next, adjustment for individual social class and education (model 2), indicating a mediatory effect, reduced the remaining association between 9 and 26 percent. The last adjustments for an offspring's periods of unemployment and family structure (model 3) produced a further decline between 12 and 43 percent. After all the adjustments were made, significant associations between parental and offspring's income levels remained.

7.3 DIFFERENCES ACROSS COHORTS

The third aim of this study was to evaluate whether the association between parental and offspring's income level differs across birth cohorts. Sub-study II reports difference in intergenerational transmission across five three-year cohorts born between 1956 and 1978. The average marginal effect (AME) for entering the lowest income decile among those with corresponding parental income compared to those with middle-income parents was about 0.05 (in other words, 5 percentage points higher likelihood) among all male cohorts, but increased from 0.02 to 0.09 across cohorts of women (Figure 5, Sub-study II). High parental income protected all cohort members from entering the lowest income level without clear changes across cohorts or between genders (AME fluctuated between 0.02 and 0.04 compared to those with middle-income family background). Similarly, low parental income hindered entering the highest income level in adulthood across all cohorts (AME fluctuated between -0.05 and -0.04 among men and between -0.01 and -0.03 among women cohorts compared to those with middle-income parents). Among women, intergenerational persistence in the highest income level increased somewhat among the three older cohorts and decreased thereafter (AME increased from 0.05 to 0.10, decreasing again to 0.07 across cohorts compared to those with middle-income background). The respective across-cohort change in average marginal effects of the highest level of parental income, as

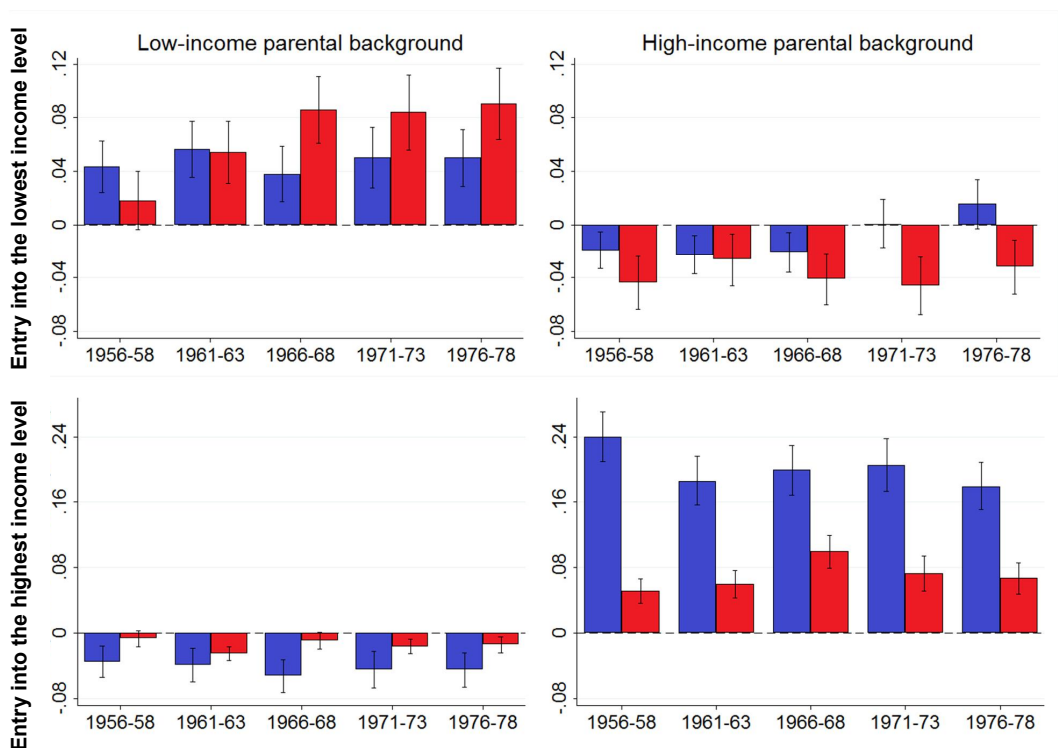


Figure 5. Age-adjusted average marginal effects (with 95% confidence intervals) for entry into the lowest and the highest income deciles (middle-income parents [40%] as the reference category) among those with the highest and lowest parental income by birth cohort. Men (blue) and women (red) at age 32 to 36 by birth cohort.

Notes: Results from logistic regression modelling (with KHB macro) conducted separately for each cohort. Chi² test for interaction between cohort and parental income level in the pooled data (all parental income groups are included) in entry to the lowest income level: men p=n.s., women p<0.001; and in entry to the highest income level: men p<0.10, women p<0.05.

compared with those in the middle-income group, was from 0.24 to 0.18 among men, indicating a slight but not statistically significant declining trend.

Among all cohorts with statistically significant associations between parental and offspring income in the highest and lowest levels, the association was partly attributable to offspring's level of education (Sub-study II). This mediatory effect of offspring educational qualification was more pronounced among those with the highest parental income across cohorts: approximately half of the intergenerational transmission of income is attributable to the offspring's educational level in entry to the highest income group, and 60 to 130 percent in entry into the lowest, depending on the cohort. No clear difference between genders emerged, but the attribution seemed to decline slightly over time.

Among those with the lowest level of parental income, individual education attenuated about 15 to 60 percent of the association between parental and offspring's income. The contribution of education to entry into the lowest income level was similar between both genders, but fluctuated more across cohorts, with a minor increasing trend over time. Furthermore, when an additional control for parental social class was included in the models, no substantial effect of parental social class was found among any cohort. This indicates that the association between parental and offspring's income is clearly more attributable to offspring educational level than to parental social class. The only distinct impact of parental social class occurred in the entry into the highest income level among those with a corresponding background across cohorts.

7.4 INCOME ATTAINMENT TRAJECTORIES AFTER GRADUATION

The fourth aim of this study was to assess whether the level of income and the development of income over the course of an individual's career differed between parental income groups. Income attainment after graduation from an educational institution was examined in Sub-study III. The higher the achieved educational qualification, the higher was the level of income at both career onset and later during the eight years of follow-up (Figure 6). Income development over time since graduation in terms of individual-level income percentiles was similar regardless of the level of education: growth seemed to slow down after a few years since entering the labor market. However, income attainment was affected by parental background in all educational levels except among those graduating from the highest level. Upper-secondary level graduates and those with a basic education had a faster increase in income level over time after graduation among those with high-income parents; among graduates on the lower tertiary level, those with high-income parents had higher incomes during the first years of the follow-up, a level which either weakened (among women) or fully disappeared (among men) toward the end. Overall, the effect of parental income varied among educational groups and was not fully constant over the time since graduation.

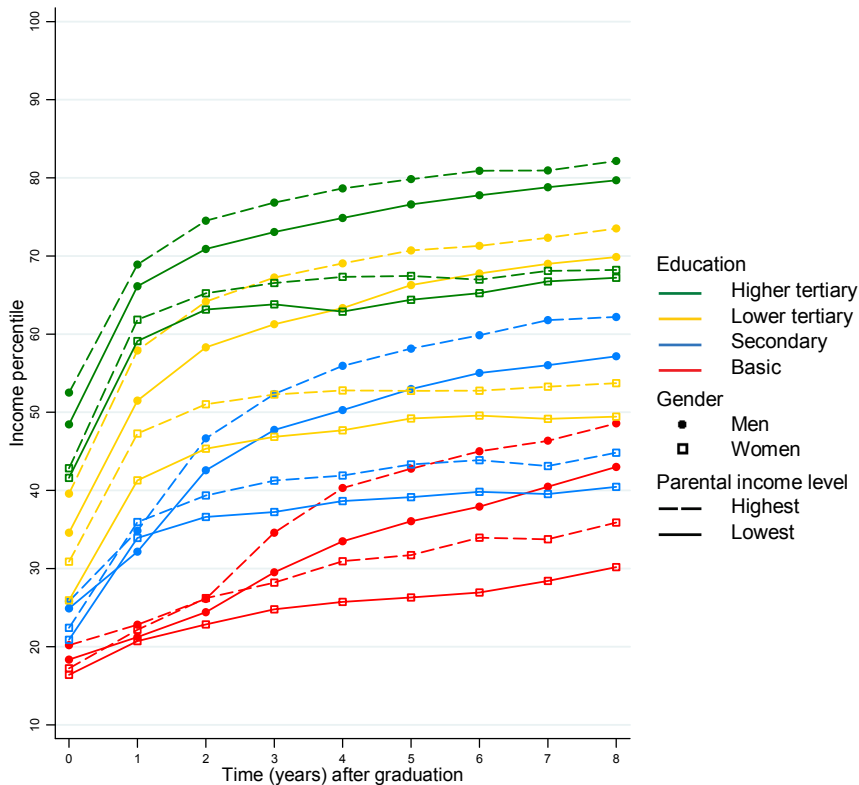


Figure 6. Income trajectories after graduation among the 1995-2000 graduation cohort by parental income level (lowest and highest quintiles): predicted marginal means using GEE estimation.

Notes: Adjusted for the interaction between follow-up time, parental income, and achieved education ($p < 0.001$ among both men and women), year of birth, newborn child, student status, unemployment history and the interaction between follow-up time and educational field ($p < 0.001$ among both men and women). The results for those on the basic level are derived from a model without adjustment for educational field.

7.5 INTERACTION BETWEEN PARENTAL BACKGROUND AND LIFE-COURSE TRANSITIONS

The last objective of this dissertation was to focus on events and transitions in early adulthood that preceded attained income level in adulthood. The aim was to examine whether the effects of these transitions on achieved income level differ between parental income groups. In the event of disadvantageous life events, a higher-income parental background may protect against the risk of offspring entering lower income levels. These interaction effects between parental income level and offspring's transitions during the early adulthood years were assessed using household-level measures (Sub-study I) and individual-level measures (Sub-study IV) of offspring's income. Sub-study I

concentrated on those entering the lowest income quintile, whereas Sub-study IV assessed interaction effects in terms of those entering the lowest and the highest quintiles and the middle three quintiles. In both sub-studies, the effect of parental income on an individual's income was more pronounced in favorable circumstances, yet was also visible in unfavorable situations.

Sub-study IV scrutinized the role of education, unemployment, age at having children, and partner's education in intergenerational transmission of income (Figure 7). These results based on individual-level personal income showed that for those entering the highest income level, the effects of offspring educational achievement were gendered: men in all educational groups except those with the highest-level qualifications had a higher probability of reaching the highest income level if they originated in a higher-income family, while among women, all educational groups except those who had only a basic-level education benefited from higher parental income. The interaction between parental income and offspring's educational level was less visible with regard to the risk of entering the lowest individual-level income: only basic-level educated men and secondary-level educated women had statistically significantly higher chances to avoid entering the lowest income level if they had a high-income origin. No such result in terms of entering the lowest household-level income was detected, however (Sub-study I).

Moreover, results from Sub-study IV showed that those with high parental income had better chances of attaining the highest individual-level income even when they were unemployed for a long period of time during early adulthood (Figure 7). The likelihood of entering the lowest individual-level income was not differentiated by parental income among those who had had long-term unemployment, however, but results from Sub-study I suggest that shorter periods of unemployment do not increase the likelihood of entering the lowest household-level income among those with high-income parents.

Sub-studies I and IV also examined the interaction between parental income and an offspring's current family formation patterns. Individuals with either high-income or low-income parents did not differ substantially based on disparities in age at the birth of their first child in terms of entering any income levels (Figure 7). Among those living by themselves in their thirties, entering the lowest income level was less likely among those with high-income parents compared to those with low-income parents when income was measured at the individual level (Sub-study IV). With household-level measurement (Sub-study I), however, singles showed the smallest difference between those of low income versus high income origins. Among men, the level of a partner's education did not differentiate the association between parental income and entering the highest personal income themselves, as all partnered men with high-income parents had elevated chances. Women, however, showed no association between parental and achieved income when they had a more highly educated partner.

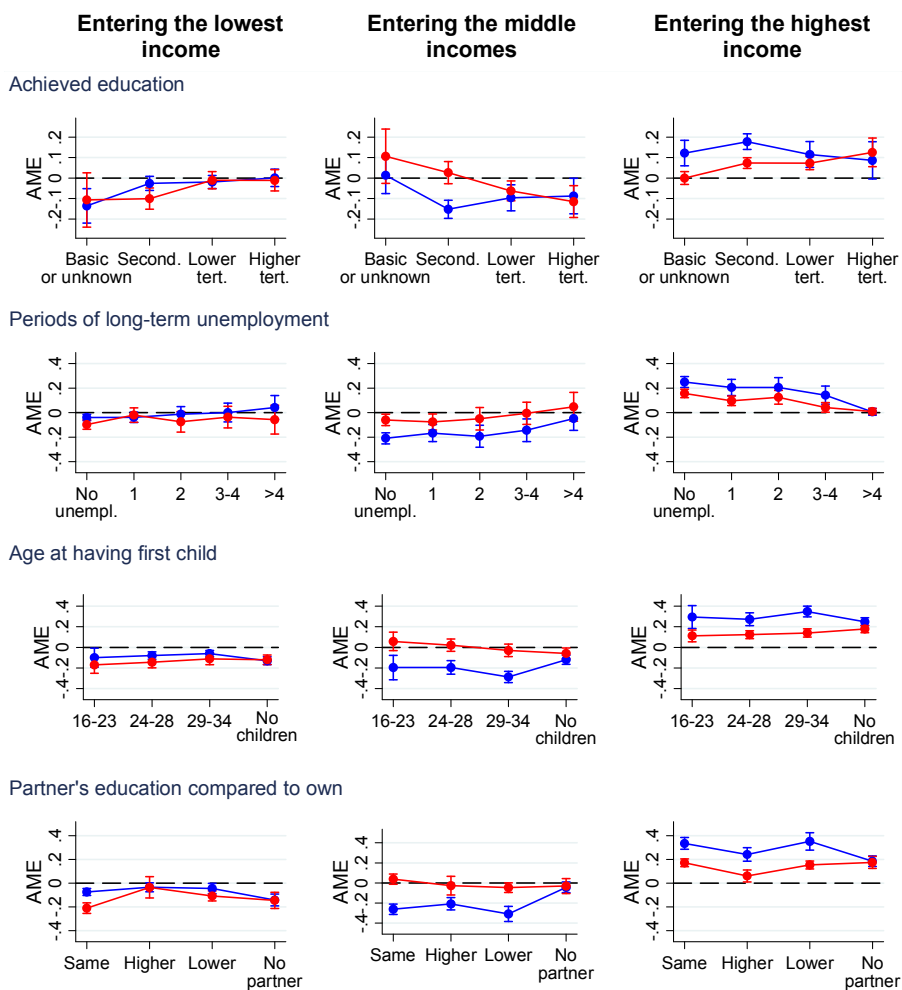


Figure 7. Average marginal effects (AME) for entering the lowest-, highest-, and three middle-income quintiles in adulthood according to level of an individual's education, unemployment, age at having the first child, and partner's relative education: difference between those originating from the highest and the lowest (ref.) parental income groups among men (blue) and women (red) born between 1972 and 1975.

Notes: Results from an unconstrained generalized ordered logit model conducted separately for each life-course transition. Adjusted for year of birth and the interaction between parental income, gender and the selected life-course transition.

8 DISCUSSION

8.1 MAIN FINDINGS

This study examined the strength, patterns, and mechanisms of the association between parental and offspring income levels using longitudinal register-based individual-level data. The objective was to apply a sociological approach to processes leading to an income level that reflect differentials in life chances linked to one's ascribed family background. The specific aims were to assess intergenerational transmission at the lowest and the highest levels of income and to study the role of parental and offspring socioeconomic and demographic characteristics pertaining to income attainment. Further objectives were to examine whether gender and cohort differences are detectable, analyze the association between parental and offspring income across the life course, and study the interaction effect between parental income and life-course transitions preceding the offspring's income attainment. The five main findings and their interpretations are discussed below.

8.1.1 THE DISTRIBUTION ENDS, ESPECIALLY THE HIGHEST, HAVE THE STRONGEST PERSISTENCE

The results demonstrate that intergenerational transmission was strongest at the ends of income distribution: the lowest and the highest levels had the most pronounced persistence across generations. Accordingly, the effect of parental background varied across the income distribution, with those in the lowest and highest parental-income quintiles differing noticeably from those in the middle three quintiles. This is in line with several previous studies conducted by economists which have shown that the association between parental and offspring income may not be as linear as previously assumed, but that the persistence across generations is strongest at one or both ends of the income-distribution scale (Björklund and Jäntti, 2009; Bratberg et al., 2007; Bratsberg et al., 2007; Couch and Lillard, 2004; Jäntti et al., 2007). This finding of nonlinearity confirms the need to broaden the study of intergenerational income transmission to acknowledge that, as in studies of social class mobility, patterns of intergenerational transmission are not alike at all levels of income distribution. If this nonlinearity is not recognized, then the differences in mechanisms among those with the most and least affluent parental origins may also go unrecognized.

Previous studies have suggested that nonlinearity in the intergenerational transmission of income is typical of Nordic countries (Bratsberg et al., 2007; Jäntti et al., 2007), and researchers have asserted that this stems from redistributive educational policies aimed at leveling the playing field for those from less privileged parental backgrounds. Esping-Andersen and Wagner

(2012) take this notion a step further based on data from Denmark and Norway. They contend that the Nordic countries have an asymmetric mobility pattern in which welfare-state policies foster equality only among those who have disadvantaged backgrounds without influencing the relative advantages of those with more affluent parents. This is probably a built-in consequence of extensive redistribution, since those coming from advantaged families would prosper even without such decommodification. Despite this asymmetrical nature, the level of intergenerational transmission is still lower in the Nordic countries than in other welfare states.

Based on the results of the present study, intergenerational continuity was especially strong among those with the highest-income parents. This suggests that families at the highest end of the socioeconomic scale have especially beneficial resources that create favorable circumstances and are specifically available for direct investments in facilitating their offspring's attainments. Additionally, having high-income parents not only increases an offspring's chances of attaining the highest level of income in adulthood, but also protects men from entering all other income quintiles and women from entering the lowest and the second-lowest income quintiles. Even in a social democratic welfare state with minimally differentiated and highly standardized educational system, with extensive family and welfare policies, and with a highly regulated labor market, affluent parents can employ various strategies to transfer advantageous assets to their offspring. As shown in previous studies, monetary and material support, living in an advantageous neighborhood, attending a specialized school, choosing a more financially rewarding educational field, and facilitating social connections in job-seeking, for example, may be directly exercised as investments in children in addition to beneficial circumstances (e.g., Goldthorpe, 2007b). This line of reasoning is further confirmed by the findings of this study, which suggest that the barriers to attaining a higher position than one's origin, in other words, being upwardly mobile, are far greater than the likelihood of those from the most affluent families ending up in the lowest income position (downward mobility).

The notion of asymmetric opportunity structure (Esping-Andersen and Wagner, 2012) would mean, however, that intergenerational transmission would not differ between those from the lowest-income backgrounds and those originating in the middle-income parental groups. The results of this study do not confirm this expectation, since they show that those from the lowest parental income backgrounds have the fewest chances for upward mobility and the least protection from entering the lowest income level. Even though the group with the lowest parental income is not as distinct in their intergenerational transmission as those with highest parental income, this finding indicates that living conditions and opportunities among those with the least affluent backgrounds are constrained to the extent that their chances to climb the socioeconomic ladder are more limited than those originating in any other group.

The choice between household-level and individual-level income as the measure of achieved income level in adulthood affects the results obtained, however. Using household-level income as the outcome amplifies the differences between parental income groups entering the highest income level among women and the lowest income level among men, and it reduces the differentials in entering the highest income level among men and the lowest among women. In other words, the results for men and women become more similar when household-level income is studied. This is rather logical as household-level income is most often an averaged measurement of a couple's earnings (and thus also resonates with differentiated family formation patterns), whereas individual-level income reflects an individual's personal position in the labor market. However, the finding that intergenerational transmission is strongest at the ends of the income distribution holds for both measures of achieved income; even though the estimates are not alike, the asymmetry is clearly shown.

8.1.2 THE INTERGENERATIONAL ASSOCIATION REMAINS AFTER ADJUSTMENTS

Despite adjustments for socioeconomic and demographic characteristics of family of origin and offspring, the intergenerational association between parental and offspring income levels remained sizeable in this study. Few previous studies have assessed the contribution of the many explanatory and mediatory factors on intergenerational income transmission. Using large-scale register-based data, this study explored the role of parental education, social class, and family structure, as well as offspring's education, social class, labor market status, length of unemployment, family structure, and childbearing in the association between parental and offspring income levels. Even though educational qualifications and labor market participation especially appeared to be relevant elements of underlying mechanisms, intergenerational transmission of income also results from unmeasured characteristics.

In the tradition of status attainment research, educational achievements are considered the key mediator of the association between parental social position and children's outcomes in adulthood (e.g., Blau and Duncan, 1967; Breen, 2004a; Breen and Jonsson, 2005, 2007; Ganzeboom et al., 1992; Ishida et al., 1995). The results of this study show that education is a noticeable, albeit not clearly exclusive mediator between parental and offspring income levels. Even though achieved education predicts achieved income to a large extent, education does not attenuate the association between parental and offspring's income as much as it was expected to do. This is in line with a previous study suggesting that children's educational attainment is less strongly associated with parents' economic resources in the Nordic context compared to other welfare states, due to the low economic barriers for obtaining educational qualifications (Jäger and Holm, 2007).

Some evidence for the equalizing effect of education was found, however. Achieving a higher educational level decreases the risk that those from low-income parental backgrounds will enter the lowest income level. The results thus confirm that higher educational attainment is a generally successful “strategy from below” (Goldthorpe, 2007) for avoiding entering the lowest income level, most likely among those having fewer other disadvantages linked with low parental income. Presumably, individuals with low-income parents and high levels of achieved education have had other, unmeasured, favorable resources and assets that facilitated educational attainment. It has been suggested, however, that among individuals from high-income parents in the Nordic countries, attaining a higher level of education than one’s parents could be less appealing as “strategy from above” for maintaining a high social position, given that the Nordic states have comparatively low economic returns to education in comparison with other welfare systems (Jæger and Holm, 2007; see also Blanden, 2009). Plausibly, as framed in the theory of effectively maintained inequality (Lucas, 2001, 2009), strategies other than (or in addition to) attaining the highest level of education, such as social connection or cultural norms, are used to secure the most privileged positions. Choosing a more financially rewarding educational field, for example, can be one of these strategies; previous studies show that, on the same educational level, those with higher parental background tend to prefer fields of study that are more likely to lead to greater monetary rewards (e.g., Jackson et al., 2008; Van de Werfhorst and Luijkx, 2010).

Differences between parental income groups with regard to entry into the lowest and highest income levels are also partly driven by differences in family structures and offspring unemployment history. Prolonged unemployment may be a broad estimate for poorer labor market integration, reflecting fewer social networks or lesser job performance. Also single parents face constrained opportunities to achieve the highest household-level incomes because of having fewer earners in the family. This is in line with previous studies on poverty risk (e.g., Vandecasteele, 2011). The present study found no evidence on the structure of the family of origin that would explain the association between parental and offspring incomes once parental education and social class were controlled for; thus, different socioeconomic characteristics of the family already seemed to capture disadvantages linked with less favorable family structure.

Overall, the finding of partial, indirect, intergenerational transmission of income via other parental and offspring characteristics demonstrates the need for a multidimensional approach to stratification (e.g., Bukodi and Goldthorpe, 2012; Marks, 2011; Weeden and Grusky, 2012). Conceptually, this approach enables more appropriate coverage of all of the different family background characteristics and mechanisms linked to the channels of intergenerational transmission. Though this study does not explicitly measure all dimensions of family background resources, that is, cultural, social, and economic capital along with other unobserved characteristics, the results

nevertheless imply that intergenerational income transmission should be explained not only in terms of parental deployment of monetary assets, but also as an interplay between different types of resources. This study shows that controlling for parental social class, for example, does not substantially attenuate the differences between parental income groups. Furthermore, the results demonstrate the multifaceted role of different personal characteristics of the offspring, as well as events and outcomes during early adulthood that precede income attainment, discussed in more detail in Section 8.1.5.

However, the introduced socioeconomic and demographic characteristics explained intergenerational income transmission most weakly among offspring originating from low-income families who also ended up in the corresponding income level in adulthood. It is therefore plausible that current theories on mechanisms describing intergenerational persistence do not apply sufficiently well to those in the poorest societal position. Establishing the role of other mediating factors such as ill health, risky health behavior, indebtedness, delinquency, and residency characteristics could provide more understanding about the mechanisms explaining the accumulation of disadvantages via social exclusion, structural constraints, or other forms of lack of future prospects.

Overall, it remains unknown whether the parental income level *per se* has an impact on achieved income level in adulthood. Though the results of this study show a relationship between the parental and the offspring's income levels, even when controlling for multiple explanatory and mediatory characteristics, it is plausible that the remaining association is nevertheless a reflection of unmeasured factors. Previous studies point in this direction (Guo and Harris, 2000; Jaeger, 2007; Warren et al., 2002) suggesting that the effect of economic circumstances in the parental family on the children's outcomes in adolescence and adulthood is first and foremost explained by mechanisms other than the lack of monetary resources alone. In such a case, the parental income level should not be considered as an operationalization of purely financial and material resources, but rather as an estimate for all the available resources that facilitate or hinder status attainment and arise from behavioral and structural advantages and constraints.

8.1.3 FEW SUBSTANTIAL CHANGES ACROSS COHORTS

A further aim of this study was to make a contribution to understanding the development of intergenerational associations over time. The results show no substantial change across the cohorts born between 1956 and 1978 among men, with a slightly strengthening intergenerational association found among women of low-income parental background. It thus appears that the level of intergenerational income mobility is not strongly linked to the temporal and structural labor market and educational changes in Finland during the past several decades. The disparities between parental income groups are more

modest than expected, since cross-country comparisons have suggested that increasing income inequality also strengthens the association between parents and children (Corak, 2012, 2006; d'Addio, 2007; Solon, 2004). Prior research on the link between income inequality and intergenerational income transmission has relied mainly on cross-country comparisons based on continuous measurements of income; however, cross-sectional comparisons between countries may not be a reliable indicator of similar association within a country over time, as the range of income inequality observed between countries is typically larger than that observed within a country over time.

It should be noted, however, that the categorical income variable used in this study does not measure the absolute distances between levels, which may explain the divergence from earlier results. Findings in the U.S., which indicate no association between increasing income inequality and rank-based intergenerational income mobility, support this interpretation (Chetty et al., 2014). In order for increasing income inequality to affect the positional measurement of intergenerational income transmission, the dispersion should be driven by forces that could change the mechanisms that are linked to the most and least affluent positions in society. Typical transmission mechanisms could change if the poorest group were increasingly excluded, given the diminishing purchasing power of social benefits. Moreover, if the wealthiest found more effective means of maintaining their position through the acquisition and transfer of capital income, then this might change the mechanisms linked to reaching the highest-income group.

Alternatively, the findings that show no clear temporal change could be explained as the interplay of educational expansion and increasing income inequality; because they are expected to have opposing associations with trends in intergenerational income transmission, no change over time is captured. Prior results on intergenerational transmission of social class in Finland confirm that no distinct cohort differences are detected for men (Erola, 2009). However, future research should explicitly concentrate on comparing different approaches to study cohort differentials in intergenerational transmission of income. This would more accurately demonstrate the relationship between income mobility and income inequality.

The finding of strengthening association between parental and offspring incomes among low-income women may stem from women's increasing labor market participation across the studied cohorts. Because the group of women staying at home and not participating in the labor market probably consists of more selected members among the younger cohorts compared to the older ones, the same selection effects reinforce intergenerational associations among low-income women. Incomes among those at the very lowest income level have not increased as rapidly as those higher up the scale (Riihelä et al., 2010; Statistics Finland, 2012), which widens the social distance to others and hinders chances of attaining higher incomes. The highest income group, on the other hand, maintained its high level of transmission across cohorts among both men and women.

8.1.4 EFFECTS OF PARENTAL BACKGROUND CONTINUE AFTER GRADUATION

The results of the present study indicate that the strength of the intergenerational transmission varies across the life course in early adulthood and adulthood. By combining intergenerational mobility with intragenerational mobility, this study found that disparities between parental income groups are not fully constant over the time since graduation, but varied to some extent according to achieved educational level, possibly, depending on the level, due to the variation in employment opportunities. Higher-income parental origin did not benefit those with a higher-level tertiary degree, whereas graduates on the lower tertiary level with more affluent parental background had higher incomes at the beginning of the eight-year follow-up, but this benefit either weakened (among women) or fully disappeared (among men) over time. Those with secondary-level education and more privileged backgrounds had higher incomes only when the educational field was accounted for, whereas the positive effect of parental background increased as a function of age among those with only a basic level of education. In general, those of more affluent parental origin were more successful, even within the same achieved educational level, owing to such things as their better job productivity (Bernardi, 2012a; Bowles et al., 2001; Goldthorpe, 2007b, 2014; Hansen, 2001; Jackson, 2007; Mastekaasa, 2011), their more rewarding career opportunities (e.g., Bourdieu 1984; Hansen 2001; Mastekaasa 2011), and their more ambitious occupational preferences (Bernardi, 2012a; Hansen, 2001; Mastekaasa, 2011).

Overall, the general tendency toward higher income among those with higher-income backgrounds, when achieved education is taken into account, is in line with previous studies (Barone and Schizzerotto, 2011; Bukodi and Goldthorpe, 2011; Hansen, 2001; Härkönen and Bihagen, 2011; Mastekaasa, 2011; Vallet, 2004). The diverging result among those who have obtained the highest level of education is consistent with the modernization thesis, which proposes that the labor market among the highly educated is the most meritocratic (e.g., Blau and Duncan 1967; Breen and Luijkx 2004; Hout 1988; Treiman 1970). Yet the finding of the difference between parental income groups varying over time since graduation is opposite to the results from previous studies (e.g., Bukodi and Goldthorpe, 2011; Härkönen and Bihagen, 2011; Manzonì et al., 2014) which have not found such noticeable trends. Previous studies have mostly concentrated on occupation-based prestige scores, however, which exhibit less temporal fluctuation than income. The results of this study indicate that analyzing labor-market outcomes without allowing for the time since labor market entry may give misleading results, given that parental resources cannot be utilized similarly over time. This stems from disparities between levels of education, since those with higher and lower educational qualifications have differing labor markets and career opportunities.

The further results of this study show that the extent to which transitions in early adulthood (education, labor market integration, and family formation) are associated with future adult outcomes is dependent on parental background. These compensatory effects, discussed in more detail in the next section, show that parental resources can be drawn on in multiple stages of the status attainment process during which individual experiences from childhood to adulthood contribute to adulthood outcomes. Overall, the findings of this study with regard to the intergenerational effects across early-adulthood transitions and after graduation could be interpreted as reflecting an accumulation of disadvantages (DiPrete and Eirich, 2006), in other words the effects of prior unfavorable events and outcomes shaping the chances for future events and outcomes.

8.1.5 PARENTAL INCOME AS PROTECTION FROM THE EFFECTS OF UNFAVORABLE TRANSITIONS

This study also endeavored to contribute new insights into intergenerational transmission by testing the compensatory advantage hypothesis (Bernardi, 2012b, 2014; Boudon, 1998; Conley, 2004). The theory assumes that unfavorable events and outcomes over the life course of young adults have a weaker effect on adult outcomes among those with higher parental background, as opposed to those from less affluent families, as the advantageous parental resources are able to compensate for the risks confronted by the offspring. This assumption stems from the argument that more affluent parents are able to regulate the extent to which they apply their resources more than parents who have fewer advantages (e.g., Bernardi, 2014; Goldthorpe, 2007; Lucas, 2001, 2009). Less affluent parents, on the other hand, having less to invest, may also divert those fewer resources to other children who have not encountered unfavorable events. The later-life outcomes of individuals from affluent backgrounds are less dependent on prior negative family and labor market transitions so that a cumulative advantage prevails among those of more affluent origin.

The results of this study provide support for the compensatory advantage theory. The study shows that the effects of transitions in young adulthood which reflect educational attainment, labor market integration, and family formation on adult incomes are modified by parental background. The results indicate that the effects of lower educational achievement were compensated for by higher parental income among men, whereas women with a higher education are more likely to benefit from their more affluent origin. Higher parental income also compensated for the harmful effects on adult income of long-term unemployment. Additionally, the role of household composition in adulthood was addressed. To some extent, higher-income parents protect their offspring from the negative association that living alone has on personal income levels. This result applies more strongly to single parents than to singles without children and applies to men in particular. These findings point

to a cumulative disadvantage (DiPrete and Eirich, 2006) linked to living alone and to originating from a low-income family. No previous study has addressed the question of an interaction effect between parental income and offspring's early-adulthood transitions on the offspring's achieved income level.

The benefit gained from parental background in dealing with unfavorable transitions applied mainly to entering the highest income level, whereas the likelihood of entering the lowest income level was less often decreased among those from high-income families. Adverse transitions, such as lower educational achievements, single parenthood, or poor labor market integration, do not usually happen randomly. In addition to affecting the consequences of these transitions, family background is also associated with their occurrence. Affluent parents and favorable personal characteristics lower the risk of negative events, creating a selection effect that hampers interpretation of the results. Long-term unemployment among those with lower and higher parental-income backgrounds may be very different in nature, which would explain the protection afforded by the more affluent origin. Additionally, children from privileged parental backgrounds with little education may not need educational qualifications in order to succeed, for instance, if they inherit a family company.

Selection effects may also explain why the results in this study suggest that mechanisms linked to entering the most and the least affluent positions in society might differ. The results show that parental resources are most helpful in maintaining a privileged position, but these resources provide hardly any benefit with regard to entering the lowest income position. To determine whether an actual causal effect is at work or whether those of affluent origin who end up in the lowest income position are only a select group (with regard to health, disability, risky behavior, cognitive skills, or motivation, for example) requires further research.

8.1.6 INTERGENERATIONAL TRANSMISSION DIFFERS BETWEEN GENDERS

The general aim of this study was to shed new light on gender differences in intergenerational transmission. The relatively high labor market participation rate of Finnish women (OECD, 2013) and the low share of women having part-time jobs (Jaumotte, 2003) enabled a reliable comparison between genders. Not only has the expansion of women earning higher education degrees since the 1960s along with various welfare state policies reduced differences in living conditions between population subgroups, but also the long-standing cultural norm in Finland of a strong similarity in the economic roles of men and women (Julkunen, 1999) provided a research setting for scrutinizing the disparities between genders, given that working women are not as selected group in the Nordic context as in other welfare states.

The results of the study indicate that the processes of intergenerational transmission differ between genders, since the differences between those with

low and those with high-income parental backgrounds were mostly attributable to parental characteristics among men and personal characteristics among women. Furthermore, disparities between parental income groups at the highest level of education were noticeable among women, but not among men, while intergenerational transmission of low income seems to have strengthened slightly across the cohorts among women, but not among men. Whether these differentials are driven by actual gender-specific mechanisms linked to parental background, as suggested by differential investment hypothesis (Breen et al., 2010) or whether they are driven by gendered roles (Acock and Yang, 1984; Boyd, 1989), for example, is unclear, since few studies have addressed these hypotheses. A previous Danish study shows that parental income affected educational expectations among sons, but not among daughters, whereas parental education influenced both daughters' and sons' expectations so in a way that showed the effect of the same-sex parent's education was strongest (Kleinjans, 2010). This suggests underlying mechanisms that are linked to transmission of values and gender roles.

Women and men may differ in their job expectations, however. If women's preferences and constraints are not the same as those of men, this would affect their job search behavior, for example (Dex and Bukodi, 2013). British studies indicate that they are more prone to choose jobs that provide opportunities to reconcile paid work with family obligations than to take jobs that promise rapid career progress (Dex and Bukodi, 2012; Hakim, 2001). This choice would result in lower investment in formal qualifications and further training, both of which are required in high-status jobs, the study suggests (Dex and Bukodi, 2012; Hakim, 2001). Moreover, results of the present study indicate that women who have formed a union with a partner who is more highly educated do not benefit from their own higher-income origin while others do. This is consistent with household production theory in which the partner with less earnings potential specializes in household work (Becker, 1991). The result does not apply to men, however, as all partnered men with high parental income succeed in gaining income advantage from their origin. This indicates women are more inclined to forgo their income potential. Whether these differences stem from parental background is yet to be studied, however.

Nevertheless, the findings of gender disparity may be due to structural factors or to the research design of the present study. Due to the comparatively highly gender-segregated labor market (Bettio and Verashchagina, 2009) in which men more often than women occupy managerial position, private-sector jobs, and appointments in fields that provide higher economic rewards, the income variation in female-dominated fields is relatively narrow. This gender segregation provides fewer chances for income progression among women than for men. In this case, gender differences would be created not only by individual-level choices of occupation and educational decisions but also by the structural conditions that drive the roles and expectations of women. Educational fields may act as an explanation for the differences

between genders found in this study, as the gender segregation in different fields tends to be connected with both the level of education and the family background. A recent study in Finland suggests a distinct gender specification, especially at the lowest levels of education, overrepresented by those from less affluent family backgrounds (Prix, 2012). Female-dominated fields appear to provide a lower likelihood of entering a profession with a higher income, and the effect of educational level on earnings also seems to be intertwined with the field of study (Prix, 2013). It is thus conceivable that gender-specific structural features of the labor market and the educational system drive the dynamics of intergenerational income transmission.

However, the research design in the present study does not favor women, because the age selected to measure the achieved income level is to some extent biased by family formation; having children forces women to stay out of the labor market for longer periods than men, and at younger age (Statistics Finland, 2013), delaying their income attainment (Ilmakunnas, 2014). Family formation is not only gendered, but also varies according to family of origin. It has been shown that those from a more affluent parental background postpone the timing of union formation and childbearing (e.g., Axinn and Thornton, 1992; Blossfeld and Huinink, 1991; Gierveld et al., 1991; Mulder et al., 2006; Murphy and Wang, 2001; Nisén et al., 2014; Rijken and Liefbroer, 2009; South, 2001), possibly because parents who are higher on the socioeconomic scale are better able to influence their offspring's family formation plans (e.g., Axinn and Thornton, 1992; Barber, 2001; Billari and Liefbroer, 2007). As socioeconomic attainment and family formation are interconnected in early adulthood and adulthood, it is likely that the processes of intergenerational income transmission are not exempt from the effects of union formation and childbearing. The results of the present study do not straightforwardly support this, however; controlling for childbearing patterns does not explain the association between parental and offspring's income, and partner selection affects income attainment only among women with a partner who has a higher education than the women themselves.

8.2 METHODOLOGICAL CONSIDERATIONS

8.2.1 CONTEXTUAL REMARKS AND GENERALIZABILITY

Intergenerational associations are interconnected with contextual circumstances. In extrapolating results, it should be noted that the processes distinguished are likely determined by the actions and attributes of families of origin, as well as by contextual factors such as characteristics of institutions or economic conditions.

As a research setting, Finland has a number of specific features. A comparatively higher level of income transfers, lower educational returns, and

a more highly regulated labor market, for instance, influence individual income development and may lead to a situation in which characteristics related to parental background have a weaker effect on income than in other countries or influence income only through achieved education. These same contextual characteristics also affect families' level of household income. Single parents, for example, are subsidized. Because of extensive welfare state policies, Finland's results are specifically generalizable to other social democratic societies. In other welfare states, the level of intergenerational transmission is slightly higher, and the role of education as a mechanism mediating the transmission is driven more substantially by the economic characteristics of the parents. Also gender differences are smaller in the Nordic countries, where differentiated roles of women and men are less culturally accepted owing to the dual-earner family norm advocated by the welfare model.

On the other hand, certain features of Finnish society make it a noteworthy case for a wider audience as well. Because schooling is state-financed and no tuition fees are collected at any level of education, Finland provides a research setting in which mechanisms of intergenerational transmission are not as directly linked to financial backing as in other contexts. Moreover, studying gender differences is particularly suitable in Finland, given that the low level of labor market participation, the high level of part-time jobs, and the cultural features that promote diverging roles between men and women do not skew the results that much.

In most of the sub-studies that make up this dissertation, the focus on the lowest income level is close but not conceptually identical with being poor. The literature describing poverty, deprivation, and social exclusion has been omitted as being beyond the scope of this study, but it is worth pointing out that the results here can be interpreted as reflecting determinants of becoming poor and the outcomes of living in a poor family. However, poverty is a more multifaceted phenomenon than low income alone, since it is linked to many other aspects of human life and availability of resources (e.g., Atkinson, 2003; Atkinson et al., 2002; Eurostat, 2015; Nolan and Whelan, 2011).

8.2.2 MEASURING INCOME

The data used fit the aims of the study well. A unique longitudinal representative dataset of the Finnish population included reliable individual- and household-level information on income provided by tax registers. Free of recall errors and non-response, the information on annual income and its distribution can be considered a highly valid and unbiased measurement of the concept of interest in this study, namely, and individual's income ranking relative to the population as a whole.

Measuring income and conceptualizing the measure to reflect an individual's position on the socioeconomic scale is not unproblematic, however. Most individuals experience considerable income variability over the

course of their lives. This volatility may attenuate measures of intergenerational persistence (e.g., Björklund, 1993; Chadwick and Solon, 2002; Grawe, 2006; Gregg et al., 2013; Haider and Solon, 2006; Jenkins, 1987; Mazumder, 2005; Solon, 2002), since variation among individuals is inaccurately interpreted as part of the intergenerational association. In this study, this attenuation bias is addressed by averaging income measurement over three consecutive years. Averaging incomes over multiple years has been a rather commonly used technique in previous studies. For the present study, sensitivity analyses were conducted with 5-year averages, which turned out to produce similar results to those obtained with the 3-year average income measurement. Additionally, measures of intergenerational transmission of income are sensitive to the age at which incomes are measured. Differences in income at a younger age tend to understate differences in lifetime income, while differences in old age tend to overstate these differences (e.g., Gregg et al., 2013; Haider and Solon, 2006). In this study, income level was measured when subjects were in their thirties. Some prior studies have claimed that this age would be a good age for estimating a for longer-term social position (e.g., Bihagen et al., 2010; Böhlmark and Lindquist, 2006), while others point out that measuring income in participants' forties would be more reliable (Gregg et al., 2013). The sensitivity analyses in this study imply that men's income is less sensitive to the measurement age than women's. The chosen age at which income was measure here was to a large extent a compromise between data availability and the "ideal" age for attaining an estimate for a lifetime income. Overall, because income quantiles are examined in this study, the risks of attenuation and life-cycle bias are probably less pronounced, since changing from one quintile to a lower or a higher one, for example, is less frequent.

In analyzing income, another decision is the choice of measurement level between individual- and household-level income, as well as between gross, taxable, and disposable income. Since the data used here do not include information on gross or disposable income for all years required by the research design, this study focused on taxable income. Comparisons of disposable and taxable income show that approximately 80 per cent falls into the same quintiles. Parental income was measured as household-level income equivalized to the family composition, as this was considered the most fitting means of capturing the family of origin's living conditions and the resources available each child. For children's achieved income in adulthood, either individual- or household-level information on income was used, depending on the sub-study. As a measure of achieved income, these two measures differ to some extent. Individual-level income is more a direct measurement of an individual's personal position in the labor market and on the socioeconomic scale and captures more precisely an individual's effort and skills. On the other hand, household-level income as a measure for achieved income is perhaps a more accurate measurement of an individual's living conditions, yet is also heavily influenced by partner selection (especially the tendency towards homogamy, see (Mäenpää, 2015) and childbearing. Since both ways of

measuring achieved income have their pros and cons, both have been used in this study. However, in all sub-studies with the exception of III, sensitivity analyses were conducted with the alternative income measurement to check the robustness of the results. Overall, intergenerational associations were slightly stronger when individual-level income was analyzed. Future research should assess more directly the relevance of different measurements of economic resources on the results concerning intergenerational transmission.

The choice between household- and individual-level measurements of achieved income is also linked to the question of gender differences. Women stay out of the labor market for longer periods of time and at a younger age compared to men. Thus, women's income attainment is distinctly more heavily hindered by family formation, and their incomes are lower than those of men, especially at the age for measuring income chosen for this study. Studying income distributions of men and women separately would solve this problem, but would not reflect reality, since women and men live in a shared society. As women's incomes can be a household decision (and thus dependent on their partner's incomes), using household-level income as a measure for achieved income could be more accurate. When the goal is to capture mechanisms of intergenerational associations, such as the role of education, family formation, and labor market participation, however, household-level income, which is interconnected with partner selection and childbearing, can be a less accurate measure. Sensitivity analyses showed that results concerning women were more similar to those of men when the household-level income measurement was analyzed.

Conceptually, the present study uses income ranking as an operationalization for an individual's life chances and position in society. Thus, as a gradational measure of stratification, income ranking assumes that people in relative neighboring income distribution share opportunities and constraints produced by their economic circumstances, which in turn produces a similar culture and interests for each group. As a measure of opportunities and constraints provided by the family of origin, equivalized household-level income ranking taken at the age of the first major schooling decisions accurately measures, if not the long-term income of the parents, at least the level of available resources at a pivotal phase in their children's lives. Additionally, as a measure of achieved position, income ranking taken in a cohort's thirties captures the position obtained in society at a phase in life when most educational decisions have already been made and actualized. Decisions about future career and family formation, for example, are timely and made at least in part by taking into account current living conditions and future prospects.

The age at which parental income level is measured may also influence the level of the results obtained on intergenerational transmission. Previous studies have indicated that the economic circumstances of the family of origin could play a particularly important role during the offspring's early childhood, suggesting that early age is an especially sensitive period of child development

(e.g., Duncan et al., 2011; Duncan and Brooks-Gunn, 2000; Heckman, 2006; see also Erola, 2012). In this study, parental income was mostly measured when children were at the stage of adolescence. It is therefore possible that measuring the parental income level when the offspring were younger would have strengthened the observed intergenerational association.

8.2.3 SELECTION EFFECTS

The central focus of this study was intergenerational associations. Though these associations may be seen to reflect causal effects, unmeasured characteristics of individuals and their families of origin hamper such an interpretation, as they do in any observational, non-experimental study design. The unmeasured components can arise from parenting styles and home atmosphere, aspirations, ill health, and genetic endowment, for example, which are not measurable in our (or in most available) data. For instance, the same characteristics of the parents that lead to low income may also predict lower achievements for their children. Future work should strive to evaluate more effectively the contribution of such confounders by using more fitting measures and study designs. One of the possible solutions is to use sibling models in which siblings originating from the same family are compared with each other.

Not taking into account these unmeasured characteristics, often referred to as unobserved heterogeneity, causes all statistical models to be simplifications of reality. In observational data, a widely used, yet not unproblematic attempt to tackle this issue is to introduce multiple confounding factors into the analysis to control for spurious and non-causal influences. Also called “causation as robust dependence” (Goldthorpe, 2001; Schneider et al., 2007), this model of causation has been criticized, especially when it is used without any reasoned theoretical background that provides explanations for the observed associations. An approach called “causation as a generative process” has therefore been introduced, which emphasizes that if a causal interpretation is made, a substantive explanation of the mechanism or process creating the association should be provided (Blossfeld, 2009a; Cox, 1992; Goldthorpe, 2001).

In the present study as in other quantitative sociological studies analyzing social regularities, a model of the process under investigation has been formulated and its properties validated with data. While this is not an unproblematic approach in the causal sense, research of this type provides a description of empirical relationships with an attempt to evaluate the effects of different attributes. This descriptive information provides grounds for evaluating sociological arguments that are generally descriptive in nature (Mare, 2011).

8.3 DO INTERGENERATIONAL ASSOCIATIONS MEASURE EQUALITY OF OPPORTUNITY?

The main general aim of this study was to assess intergenerational associations across parental background groups. These associations are then understood to reflect the distribution of life chances and the level of (in)equality of opportunity. Opportunities, or in other words, the possible choices available to each individual and group of individuals, are regarded as mainly fixed in social stratification research so that an individual has little control over them. This structural explanation assumes that individuals' behavior resonates with their structural position in society: how individuals behave is linked to the resources they possess, the constraints they confront, and the preferences or goals they have. In a rational action framework, individuals are believed to make choices that satisfy their personal preferences most fittingly, given the resources available and the constraints faced (also called cost-benefit analysis when used to refer to optimizing behavior). In sociology, constraints refer not only to economic costs, but also to all kinds of barriers captured by prevailing circumstances and internalized through socialization (Goldthorpe, 2007a; Petersen, 2011; Sørensen, 1977, 1983, 1996).

However, the "rationality" of individuals' actions has been challenged by many sociologists as not reflecting real social life (see Goldthorpe, 2007a for an overview). Often individuals are not aware of the constraints they face or the opportunities that are available, and they do not actively reflect costs and benefits linked to the choices they are making. They may also have inconsistent preferences or lack knowledge about the actions that would provide the best chances for reaching their goals, while the choices that they make may have both intended and unintended consequences (e.g., Elster, 1989). Despite this high probability of individual irrational behavior, those who have similar resources and preferences and face similar constraints (in other words, are provided with similar opportunities) are likely to act similarly (e.g., Breen and Rottman, 1995b; Goldthorpe, 2007a). From this point of view, groups of individuals have a tendency to "act" rationally at the aggregate level (though the group itself may not be an actor), thereby illustrating regularities in social life. Thus, disparities at the aggregate level describe disparities in common individual choices between groups of people; the choices are shaped by such things as social norms, social relations, and socialization processes. This, then, may be seen to reflect differential opportunity structures. Using a large-scale data set as was done in the present study is a particularly reliable means for predicting aggregate patterns of human behavior (e.g., Blossfeld and Prein, 1998; Goldthorpe, 1996, 1998, 2007a).

The preferences, resources, and constraints that drive aggregate-level human behavior are linked with one's position in the system of stratification, identified in this study as family background. The system of stratification creates structural constraints by allocating fewer chances for those in a lower position to exploit available opportunities (e.g., Goldthorpe, 1980, 2007;

Sørensen, 1977); even if all people were treated equally, humans are not always able to realize fully their available opportunities owing to a lack of resources. Individuals may even adjust their preferences to the opportunities they find most accessible (Elster, 1985; Petersen, 2011), as has been noted in the theory of relative risk aversion (Breen and Goldthorpe, 1997). Consequently, available opportunities are systematically different between groups.

If all available opportunities were equally distributed, this would generate children's aggregate-level outcomes in adulthood independent of the living conditions and social circumstances of their family of origin. Thus, parental income level and other characteristics would not predict an offspring's achieved income level in adulthood. Outcomes in adulthood would then be defined by children's achieved characteristics and not by their ascribed characteristics. Disparities in adult outcomes resulting from differences in a person's own effort are generally considered acceptable, because then chances to develop innate abilities would be similar for all children. However, the formation of adult outcomes and the role of parental background are more complex than this simplified view of equality of opportunity would assume. Individuals have freedom of choice, and parents have autonomy to decide on the values they will pass on to their children together with other upbringing strategies. Because genetic inheritance is also inevitable, complete independence of aggregate-level parental and offspring characteristics is rather unattainable (e.g., Dardanoni et al., 2006; Fishkin, 1983; Roemer, 1998, 2002, 2004; Swift, 2004).

The perspective adopted here to study equality empirically in terms of intergenerational transmission of income is indeed not unproblematic. However, describing probabilities of attaining the most and the least affluent positions in a population-level distribution does reflect explicit differences between family background groups. Moreover, though examining income provides only a partial explanation for all the dimensions of social stratification and mechanisms linked to status attainment, inequalities in one dimension of stratification tend to correspond with others, describing the openness of the a society and providing prospects for evaluating policy choices.

9 CONCLUSIONS

This study set out to explore how ascribed socioeconomic characteristics of family background predict income attainment with the intention of implementing the sociological concept of socioeconomic attainment with regard to income. Relative income level was considered not only to reflect material conditions, but also to illustrate a person's chances in life.

The results of the study contribute to the literature by showing that inequality in Finland is specifically linked to the ends of the income distribution where the strength of intergenerational persistence is most pronounced. The resources of those with low and high income are differentiated so that social mobility is clearly hindered among those in the lowest social position, and those in the highest maintain their privileges. Despite comparatively generous welfare policies intended to reduce differences between population groups, along with the equalizing Finnish comprehensive school system, constrained life chances persist among those from disadvantageous family backgrounds. In order to improve the starting point of those with scarce parental resources, more policies should be aimed at supporting socioeconomic attainment from an early age. These could include providing more social support for families with economic and social hardships, investing in universal daycare and early interventions, and preventing differentiation of schools and regions. Decreasing the level of structural and long-term unemployment and revising the standard of living among those in the poorest social position would additionally improve chances for upward mobility and reduce the probability of cumulative disadvantages. Furthermore, ensuring that the social distance does not increase between those who are lowest and those who are highest up on the socioeconomic scale should be established as a political goal. This would help lower the barriers for those of less affluent origin for obtaining a more affluent position.

This study highlights the fact that intergenerational associations are complex combinations of life events and varying parental resources; family background influences both the transitions throughout young adulthood and the offspring's achieved income level. Further research should be aimed at disentangling the processes of cumulative inequalities. The results of this study show that the compensatory power of favorable family of origin extends to many phases of an offspring's socioeconomic attainment. Moreover, scrutinizing those who manage to climb up the ladder from disadvantageous family backgrounds to a higher achieved social position would give more insight into the underlying mechanisms and enable more effective targeting of policy interventions.

Additionally, the study provided new information about gender differences in intergenerational transmission. Persistence in remaining at the lowest income level is more common among women, while persistence in remaining

at the highest level is more common among men. Moreover, the mechanisms creating socioeconomic outcomes in adulthood seem to differ by gender, possibly owing to structural constraints such as the gendered labor market or differences in family formation behavior and norms. To clarify the underlying processes that lead to gender-specific status attainment patterns, future research should concentrate on causal analysis that explains the structural and micro-level constraints and mechanisms driving women's and men's differentiated income attainment. Because women, despite a higher level of education, still earn noticeably lower incomes than men, it is plausible that having similar chances for labor market success would make mechanisms of intergenerational transmission more similar.

The importance of taking into account multiple parental and offspring socioeconomic and demographic characteristic that emerged in this study calls for incorporating income into sociological research on socioeconomic attainment and intergenerational transmission. As a section of social structure, income distribution describes positions in the system of stratification that are also socially constrained and also describes unequal allocation of favorable resources and circumstances throughout a population. By acknowledging this dimension and including it in studies of intergenerational transmission of social class or education, for example, a broader and more comprehensive portrayal of living conditions and well-being can be achieved.

REFERENCES

- Aaberge R, Björklund A, Jäntti M, et al. (2002) Income Inequality and Income Mobility in the Scandinavian Countries Compared to the United States. *Review of Income and Wealth* 48(4): 443–469.
- Acock AC and Yang WS (1984) Parental Power and Adolescents' Parental Identification. *Journal of Marriage and Family* 46(2): 487–495.
- Airio I and Niemelä M (2009) Perhetaustan yhteys aikuisiän köyhyyteen Suomessa 1995–2005. [The association between parental background and poverty in adulthood in Finland 1995–2005.] *Sosiologia* 46(1): 3–19.
- Airio I, Moisio P and Niemelä M (2004) *Intergenerational Transmission of Poverty in Finland in the 1990s*. C, University of Turku.
- Alesina A, Di Tella R and MacCulloch R (2004) Inequality and happiness: are Europeans and Americans different? *Journal of Public Economics* 88(9–10): 2009–2042.
- Andersen IG and Jæger MM (2015) Cultural capital in context: Heterogeneous returns to cultural capital across schooling environments. *Social Science Research* 50: 177–188.
- Andersen PL and Hansen MN (2012) Class and Cultural Capital—The Case of Class Inequality in Educational Performance. *European Sociological Review* 28(5): 607–621.
- Andersen R (2012) Support for democracy in cross-national perspective: The detrimental effect of economic inequality. *Research in Social Stratification and Mobility*, Consequences of Economic Inequality 30(4): 389–402.
- Astone NM and McLanahan SS (1991) Family Structure, Parental Practices and High School Completion. *American Sociological Review* 56(3): 309–320.
- Atkinson AB (2003) Multidimensional Deprivation: Contrasting Social Welfare and Counting Approaches. *The Journal of Economic Inequality* 1(1): 51–65.
- Atkinson AB (2015) *Inequality: What Can Be Done?* 1st Edition edition. Cambridge, Massachusetts: Harvard University Press.
- Atkinson T, Cantillon B, Marlier E, et al. (2002) *Social Indicators. The EU and Social Inclusion*. Oxford: Oxford University Press.
- Axinn WG and Thornton A (1992) The influence of parental resources on the timing of the transition to marriage. *Social Science Research* 21(3): 261–285.
- Babones SJ (2008) Income inequality and population health: Correlation and causality. *Social Science & Medicine* 66(7): 1614–1626.
- Baranowska A and Gebel M (2010) The Determinants of Youth Temporary Employment in the Enlarged Europe. *European Societies* 12(3): 367–390.
- Barber JS (2001) The Intergenerational Transmission of Age at First Birth among Married and Unmarried Men and Women. *Social Science Research* 30(2): 219–247.
- Barone C and Schizzerotto A (2011) Introduction: Career mobility, education, and intergenerational reproduction in five European societies. *European Societies* 13(3): 331–345.
- Becker GS (1964) *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education*. Chicago: The University of Chicago Press.
- Becker GS (1991) *A Treatise on the Family*. Cambridge, Massachusetts: Harvard University Press.
- Becker GS and Tomes N (1976) Child Endowments and the Quantity and Quality of Children. *Journal of Political Economy* 84(4): S143–S162.
- Becker GS and Tomes N (1979) An Equilibrium Theory of the Distribution of Income and Intergenerational Mobility. *Journal of Political Economy* 87(6): 1153–1189.

- Becker GS and Tomes N (1986) Human Capital and the Rise and Fall of Families. *Journal of Labor Economics* 4(3): S1–S39.
- Beller E (2009) Bringing Intergenerational Social Mobility Research into the Twenty-first Century: Why Mothers Matter. *American Sociological Review* 74(4): 507–528.
- Beller E and Hout M (2006) Welfare states and social mobility: How educational and social policy may affect cross-national differences in the association between occupational origins and destinations. *Research in Social Stratification and Mobility* 24(4): 353–365.
- Bernardi F (2012a) Social origins and inequality in educational returns in the labour market in Spain. *EUI Working Paper* (SPS 2012/05).
- Bernardi F (2012b) Unequal transitions: Selection bias and the compensatory effect of social background in educational careers. *Research in Social Stratification and Mobility* 30(2): 159–174.
- Bernardi F (2014) Compensatory Advantage as a Mechanism of Educational Inequality A Regression Discontinuity Based on Month of Birth. *Sociology of Education* 87(2): 74–88.
- Bernardi F and Radl J (2014) The long-term consequences of parental divorce for children's educational attainment. *Demographic Research* 30(61): 1653–1680.
- Bettio F and Verashchagina A (2009) *Gender segregation in the labour market : root causes, implications and policy responses in the EU*. Luxembourg: European Commission, Publications Office of the European Union.
- Bihagen E (2005) Labour Market Rewards and the Neo-Classical Soup An Analysis of the Relation between Social Class and Economic Inequalities in Sweden in the Last Quarter of the 20th Century. *Acta Sociologica* 48(1): 63–84.
- Bihagen E, Neramo M and Erikson R (2010) Social class and employment relations: Comparisons between the ESeC and EGP class schemas using European data. In: Rose D and Harrison E (eds), *Social Class in Europe: An introduction to the European Socio-economic Classification*, London: Routledge, pp. 89–113.
- Billari FC and Liefbroer AC (2007) Should I Stay or Should I Go? The Impact of Age Norms on Leaving Home. *Demography* 44(1): 181–198.
- Birkelund GE (2006) Welfare states and social inequality: Key issues in contemporary cross-national research on social stratification and mobility. *Research in Social Stratification and Mobility* 24(4): 333–351.
- Björklund A (1993) A Comparison Between Actual Distributions of Annual and Lifetime Income: Sweden 1951–89. *Review of Income and Wealth* 39(4): 377–386.
- Björklund A and Chadwick L (2003) Intergenerational income mobility in permanent and separated families. *Economics Letters* 80(2): 239–246.
- Björklund A and Jäntti M (2000) Intergenerational mobility of socio-economic status in comparative perspective. *Nordic Journal of Political Economy* 26: 3–32.
- Björklund A and Jäntti M (2009) Intergenerational income mobility and the role of family background. In: Salverda W, Nolan B, and Smeeding TM (eds), *Handbook of economic inequality*, Oxford: Oxford University Press, pp. 491–521.
- Björklund A and Sundström M (2006) Parental Separation and Children's Educational Attainment: A Siblings Analysis on Swedish Register Data. *Economica* 73(292): 605–624.
- Björklund A, Eriksson T, Jäntti M, et al. (2002) Brother Correlations in Earnings in Denmark, Finland, Norway and Sweden Compared to the United States. *Journal of Population Economics* 15(4): 757–772.
- Björklund A, Jäntti M and Solon G (2005) Influences of Nature and Nurture on Earnings Variation: A Report on a Study of Various Sibling Types in Sweden. In: Bowles S, Gintis H, and Osborne Groves M (eds), *Unequal Chances*:

- Family Background and Economic Success*, New York, Princeton and Oxford: Russell Sage Foundation and Princeton University Press, pp. 145–164.
- Björklund A, Jäntti M and Lindquist MJ (2009) Family background and income during the rise of the welfare state: Brother correlations in income for Swedish men born 1932–1968. *Journal of Public Economics* 93(5–6): 671–680.
- Blanden J (2009) Intergenerational Income Mobility in a Comparative Perspective. In: Dolton P, Asplund R, and Barth E (eds), *Education and inequality across Europe*, Cheltenham, UK; Northampton, MA: Edward Elgar Pub., pp. 239–259.
- Blanden J, Goodman A, Gregg P, et al. (2004) Changes in Intergenerational Mobility in Britain. In: Corak M (ed.), *Generational Income Mobility in North America and Europe*, Cambridge: Cambridge University Press, pp. 122–146.
- Blanden J, Gregg P and Macmillan L (2007) Accounting for Intergenerational Income Persistence: Noncognitive Skills, Ability and Education. *The Economic Journal* 117(519): C43–C60.
- Blanden J, Wilson K, Haveman R, et al. (2011) Understanding the Mechanisms Behind Intergenerational Persistence: A Comparison of the United States and Great Britain. In: Smeeding TM, Erikson R, and Jäntti M (eds), *Persistence, Privilege, and Parenting. The Comparative Study of Intergenerational Mobility*, New York: Russell Sage Foundation, pp. 29–72.
- Blanden J, Gregg P and Macmillan L (2013) Intergenerational persistence in income and social class: the effect of within-group inequality. *Journal of the Royal Statistical Society: Series A (Statistics in Society)* 176(2): 541–563.
- Blau PM and Duncan OD (1967) *The American Occupational Structure*. New York: Wiley and Sons.
- Blossfeld H and Timm A (2003) *Who Marries Whom? Educational Systems As Marriage Markets in Modern Societies*. Dordrecht: Kluwer Academic Publishers.
- Blossfeld H, Klijzing E, Mills M, et al. (eds) (2005) *Globalization, Uncertainty and Youth in Society*. London and New York: Routledge.
- Blossfeld H-P (2009a) Causal inference and statistical models in modern social sciences. In: Hedström P and Wittrock B (eds), *Frontiers of sociology*, Leiden: Brill Academic Publishers, pp. 401–432.
- Blossfeld H-P (2009b) Educational Assortative Marriage in Comparative Perspective. *Annual Review of Sociology* 35(1): 513–530.
- Blossfeld H-P and Huinink J (1991) Human Capital Investments or Norms of Role Transition? How Women's Schooling and Career Affect the Process of Family Formation. *American Journal of Sociology* 97(1): 143–168.
- Blossfeld H-P and Prein G (1998) *Rational Choice Theory and Large-scale Data Analysis*. Westview Press.
- Böhlmark A and Lindquist MJ (2006) Life-Cycle Variations in the Association between Current and Lifetime Income: Replication and Extension for Sweden. *Journal of Labor Economics* 24(4): 879–896.
- Bol T and Van de Werfhorst HG (2013) Educational Systems and the Trade-Off between Labor Market Allocation and Equality of Educational Opportunity. *Comparative Education Review* 57(2): 285–308.
- Boliver V (2010) Expansion, differentiation, and the persistence of social class inequalities in British higher education. *Higher Education* 61(3): 229–242.
- Boudon R (1974) *Education, Opportunity, and Social Inequality: Changing Prospects in Western Society*. John Wiley & Sons Canada, Limited.
- Boudon R (1998) Social mechanisms without black boxes. In: Hedström P and Swedberg R (eds), *Social mechanisms. An analytical approach to social theory*, Cambridge: Cambridge University Press, pp. 172–203.
- Bourdieu P (1977) Cultural Reproduction and Social Reproduction. In: *Power and Ideology in Education*, New York: Oxford University Press, pp. 487–511.
- Bourdieu P (1984) *Distinction*. Cambridge: Harvard University Press.

- Bourdieu P (1986) The Forms of Capital. In: Richardson J (ed.), *Handbook of Theory and Research for the Sociology of Education*, New York: Greenwood, pp. 241–258.
- Bourdieu P and Passeron JC (1977) *Reproduction in Education, Society and Culture*. Theory, Culture & Society, London: Sage.
- Bowles S and Gintis H (2002) The inheritance of inequality. *Journal of Economic Perspectives* 16(3): 3–30.
- Bowles S, Gintis H and Osborne M (2001) Incentive-Enhancing Preferences: Personality, Behavior, and Earnings. *American Economic Review* 91(2): 155–158.
- Bowles S, Gintis H and Osborne Groves M (eds) (2005) *Unequal chances. Family background and economic success*. Princeton and Oxford: Princeton University Press.
- Boyd CJ (1989) Mothers and Daughters: A Discussion of Theory and Research. *Journal of Marriage and Family* 51(2): 291–301.
- Brandolini A and Smeeding TM (2009) Income Inequality in Richer and OECD Countries. In: *The Oxford Handbook of Economic Inequality*, Oxford University Press, pp. 71–100.
- Bratberg E, Nilsen ØA and Vaage K (2007) Trends in Intergenerational Mobility across Offspring's Earnings Distribution in Norway. *Industrial Relations: A Journal of Economy and Society* 46(1): 112–129.
- Bratsberg B, Røed K, Raaum O, et al. (2007) Nonlinearities in intergenerational earnings mobility: consequences for cross-country comparisons. *The Economic Journal* 117(519): C72–C79.
- Breen R (ed.) (2004a) *Social Mobility in Europe*. Oxford: Oxford University Press.
- Breen R (2004b) The Comparative Study of Social Mobility. In: Breen R (ed.), *Social Mobility in Europe*, Oxford: Oxford University Press, pp. 1–16.
- Breen R (2005) Explaining Cross-national Variation in Youth Unemployment. *European Sociological Review* 21(2): 125–134.
- Breen R and Buchmann M (2002) Institutional Variation and the Position of Young People: A Comparative Perspective. *The ANNALS of the American Academy of Political and Social Science* 580(1): 288–305.
- Breen R and Goldthorpe JH (1997) Explaining Educational Differentials. Towards a Formal Rational Action Theory. *Rationality and Society* 9(3): 275–305.
- Breen R and Goldthorpe JH (2001) Class, Mobility and Merit. The Experience of Two British Birth Cohorts. *European Sociological Review* 17(2): 81–101.
- Breen R and Jonsson JO (2005) Inequality of Opportunity in Comparative Perspective: Recent Research on Educational Attainment and Social Mobility. *Annual Review of Sociology* 31(1): 223–243.
- Breen R and Jonsson JO (2007) Explaining Change in Social Fluidity: Educational Equalization and Educational Expansion in Twentieth-Century Sweden. *American Journal of Sociology* 112(6): 1775–1810.
- Breen R and Luijkx R (2004a) Conclusions. In: Breen R (ed.), *Social Mobility in Europe*, Oxford: Oxford University Press, pp. 383–410.
- Breen R and Luijkx R (2004b) Social Mobility in Europe between 1970 and 2000. In: Breen R (ed.), *Social Mobility in Europe*, Oxford: Oxford University Press, pp. 37–76.
- Breen R and Luijkx R (2007) Social Mobility and Education: A Comparative Analysis of Period and Cohort Trends in Britain and Germany. In: Scherer S, Pollak R, Otte G, et al. (eds), *From Origin to Destination: Trends and Mechanisms in Social Stratification Research*, Frankfurt: Campus Verlag, pp. 102–124.
- Breen R and Rottman D (1995a) Class Analysis and Class Theory. *Sociology* 29(3): 453–473.
- Breen R and Rottman DB (1995b) *Class Stratification: Comparative Perspectives*. New York: Routledge.

- Breen R and Yaish M (2006) Testing the Breen-Goldthorpe model of educational decision making. In: Morgan SL, Grusky DB, and Fields GS (eds), *Mobility and Inequality. Frontiers of Research in Sociology*, Stanford: Stanford University Press, pp. 232–268.
- Breen R, Luijkx R, Müller W, et al. (2009) Nonpersistent Inequality in Educational Attainment: Evidence from Eight European Countries. *American Journal of Sociology* 114(5): 1475–1521.
- Breen R, Luijkx R, Müller W, et al. (2010) Long-term Trends in Educational Inequality in Europe: Class Inequalities and Gender Differences. *European Sociological Review* 26(1): 31–48.
- Breen R, Van de Werfhorst HG and Jæger MM (2014) Deciding under Doubt: A Theory of Risk Aversion, Time Discounting Preferences, and Educational Decision-making. *European Sociological Review* 30(2): 258–270.
- Breen R, Mood C and Jonsson JO (2016) How much scope for a mobility paradox? The relationship between social mobility and income mobility. *Sociological Science* 3: 39–60.
- Buchmann MC and Kriesi I (2011) Transition to Adulthood in Europe. *Annual Review of Sociology* 37(1): 481–503.
- Bukodi E and Goldthorpe JH (2011) Social class returns to higher education: chances of access to the professional and managerial salariat for men in three British birth cohorts. *Longitudinal and Life Course Studies* 2(2): 185–201.
- Bukodi E and Goldthorpe JH (2012) Decomposing ‘social origins’: The effects of parents’ class, status and educational on the educational attainment of their children. *Barnett papers in social research* 2.
- Bukodi E and Goldthorpe JH (2013) Decomposing ‘Social Origins’: The Effects of Parents’ Class, Status, and Education on the Educational Attainment of Their Children. *European Sociological Review* 29(5): 1024–1039.
- Burawoy M (1977) Social Structure, Homogenization, and ‘The Process of Status Attainment in the United States and Great Britain’. *American Journal of Sociology* 82(5): 1031–1042.
- Carneiro P and Heckman JJ (2003) Human capital policy. In: Heckman JJ and Krueger AB (eds), *Inequality in America. What Role for Human Capital Policies?* Cambridge, Mass.: MIT Press, pp. 77–240.
- Chadwick L and Solon G (2002) Intergenerational Income Mobility among Daughters. *The American Economic Review* 92(1): 335–344.
- Cherlin AJ (1999) Going to extremes: Family structure, children’s well-being, and social science. *Demography* 36(4): 421–428.
- Chetty R, Hendren N, Kline P, et al. (2014) *Is the United States Still a Land of Opportunity? Recent Trends in Intergenerational Mobility*. Working Paper, National Bureau of Economic Research.
- Coleman JS (1988) Social Capital in the Creation of Human Capital. *American Journal of Sociology* 94: S95–S120.
- Collins R (1971) Functional and Conflict Theories of Educational Stratification. *American Sociological Review* 36(6): 1002–1019.
- Conley D (2004) *The Pecking Order: Which Siblings Succeed and why*. Pantheon Books.
- Conley D (2008) Bringing sibling differences in: enlarging our understanding of the transmission of advantage in families. In: Lareau A and Conley D (eds), *Social Class: How Does It Work?* New York: Russell Sage Foundation, pp. 179–200.
- Conley D, Domingue B, Cesarini D, et al. (2015) Is the Effect of Parental Education on Offspring Biased or Moderated by Genotype? *Sociological Science* 2: 82–105.
- Corak M (2006) Do Poor Children Become Poor Adults? Lessons from a Cross Country Comparison of Generational Earnings Mobility. *Research on Economic Inequality* 13: 143–188.

- Corak M (2013) Inequality from Generation to Generation: The United States in Comparison. In: Rycroft R (ed.), *The Economics of Inequality, Poverty, and Discrimination in the 21st Century*, Santa Barbara, California: Praeger, pp. 107–123.
- Corak M and Heisz A (1999) The Intergenerational Earnings and Income Mobility of Canadian Men: Evidence from Longitudinal Income Tax Data. *The Journal of Human Resources* 34(3): 504–533.
- Corak M, Lindquist MJ and Mazumder B (2014) A comparison of upward and downward intergenerational mobility in Canada, Sweden and the United States. *Labour Economics* 30: 185–200.
- Corcoran M (1995) Rags to Rags: Poverty and Mobility in the United States. *Annual Review of Sociology* 21: 237–267.
- Couch KA and Lillard DR (2004) Non-linear patterns of intergenerational mobility on Germany and the United States. In: Corak M (ed.), *Generational Income Mobility in North America and Europe*, Cambridge, pp. 190–206.
- Cox DR (1992) Causality: Some statistical aspects. *Journal of the Royal Statistical Society* 155(Series A): 291–301.
- Crompton R (2008) *Class and Stratification*. 3rd edition. Cambridge, UK ; Malden, MA: Polity.
- d’Addio AC (2007) Intergenerational Transmission of Disadvantage: Mobility or Immobility across Generations? A Review of the Evidence for OECD Countries. *OECD Social, employment and migration working papers* (52).
- Dardanoni V, Fields GS, Roemer JE, et al. (2006) How Demanding Should Equality of Opportunity Be, and How Much Have We Achieved? In: Morgan SL, Grusky DB, and Fields GS (eds), *Mobility and Inequality. Frontiers of Research in Sociology*, Stanford University Press, pp. 59–84.
- Dariotis JK, Pleck JH, Astone NM, et al. (2011) Pathways of Early Fatherhood, Marriage, and Employment: A Latent Class Growth Analysis. *Demography* 48(2): 593–623.
- Davies R, Heinesen E and Holm A (2002) The relative risk aversion hypothesis of educational choice. *Journal of Population Economics* 15(4): 683–713.
- Davies S and Guppy N (1997) Fields of Study, College Selectivity, and Student Inequalities in Higher Education. *Social Forces* 75(4): 1417–1438.
- Davis K and Moore WE (1945) Some Principles of Stratification. *American Sociological Review* 10(2): 242–249.
- De Graaf ND, De Graaf PM and Kraaykamp G (2000) Parental Cultural Capital and Educational Attainment in the Netherlands: A Refinement of the Cultural Capital Perspective. *Sociology of Education* 73(2): 92–111.
- Delhey J and Kohler U (2011) Is happiness inequality immune to income inequality? New evidence through instrument-effect-corrected standard deviations. *Social Science Research* 40(3): 742–756.
- Devine F (2004) *Class Practices: How Parents Help Their Children Get Good Jobs*. Cambridge: Cambridge University Press.
- Dex S and Bukodi E (2012) The Effects of Part-Time Work on Women’s Occupational Mobility in Britain: Evidence from the 1958 Birth Cohort Study. *National Institute Economic Review* 222(1): R20–R37.
- Dex S and Bukodi E (2013) Gender Differences in Job and Occupational Mobility in Varying Labour Market Conditions. *Barnett papers in social research* (3).
- DiPrete TA (2002) Life Course Risks, Mobility Regimes, and Mobility Consequences: A Comparison of Sweden, Germany, and the United States. *American Journal of Sociology* 108(2): 267–309.
- DiPrete TA and Eirich GM (2006) Cumulative Advantage as a Mechanism for Inequality: A Review of Theoretical and Empirical Developments. *Annual Review of Sociology* 32(1): 271–297.

- DiPrete TA, De Graaf PM, Luijkx R, et al. (1997) Collectivist versus Individualist Mobility Regimes? Structural Change and Job Mobility in Four Countries. *American Journal of Sociology* 103(2): 318–58.
- Dumais SA (2002) Cultural Capital, Gender, and School Success: The Role of Habitus. *Sociology of Education* 75(1): 44–68.
- Duncan GJ and Brooks-Gunn J (2000) Family poverty, welfare reform, and child development. *Child Development* 71(1): 188–196.
- Duncan GJ, Yeung WJ, Brooks-Gunn J, et al. (1998) How Much Does Childhood Poverty Affect the Life Chances of Children? *American Sociological Review* 63(3): 406–423.
- Duncan GJ, Magnuson K, Kalil A, et al. (2011) The Importance of Early Childhood Poverty. *Social Indicators Research* 108(1): 87–98.
- Duncan GJ, Bergman L, Duckworth K, et al. (2012) Child Skills and Behaviors in Intergenerational Inequality. In: Ermisch J, Jäntti M, and Smeeding TM (eds), *From Parents to Children: The Intergenerational Transmission of Advantage*, New York: Russell Sage Foundation, pp. 207–234.
- Elder GH (1985) *Life Course Dynamics: Trajectories and Transitions, 1968–1980*. Ithaca, New York: Cornell University Press.
- Elder GH. J (1998) The Life Course as Developmental Theory. *Child Development* 69(1): 1–12.
- Elster J (1985) *Sour Grapes. Studies in the Subversion of Rationality*. Cambridge University Press.
- Elster J (1989) *Nuts and Bolts for the Social Sciences*. Cambridge: Cambridge University Press.
- Erikson R and Goldthorpe JH (1987) Commonality and variation in social fluidity in industrial nations. Part I: A model for evaluating the ‘FJH hypothesis’. *European Sociological Review* 3(1): 54–77.
- Erikson R and Goldthorpe JH (1992) *The Constant Flux: A Study of Class Mobility in Industrial Societies*. Oxford: Oxford University Press.
- Erikson R and Goldthorpe JH (2002) Intergenerational Inequality: A Sociological Perspective. *Journal of Economic Perspectives* 16(3): 31–44.
- Erikson R and Goldthorpe JH (2010) Has social mobility in Britain decreased? Reconciling divergent findings on income and class mobility. *The British Journal of Sociology* 61(2): 211–230.
- Erikson R and Jonsson JO (1998) Social Origin as an Interest-bearing Asset: Family Background and Labour-market Rewards among Employees in Sweden. *Acta Sociologica* 41(1): 19–36.
- Erikson R and Rudolphi F (2010) Change in Social Selection to Upper Secondary School—Primary and Secondary Effects in Sweden. *European Sociological Review* 26(3): 291–305.
- Ermisch J (2008) Origins of Social Immobility and Inequality: Parenting and Early Child Development. *National Institute Economic Review* 205(1): 62–71.
- Ermisch J, Francesconi M and Siedler T (2006) Intergenerational Mobility and Marital Sorting. *The Economic Journal* 116(513): 659–679.
- Ermisch J, Jäntti, M and Smeeding TM (eds) (2012) *From Parents to Children. The Intergenerational Transmission of Advantage*. New York: Russell Sage Foundation.
- Erola J (2009) Social Mobility and Education of Finnish Cohorts Born 1936–75 Succeeding While Failing in Equality of Opportunity? *Acta Sociologica* 52(4): 307–327.
- Erola J (2012) Family Background and the Life Cycle Effects of Father’s Class and Income. In: Lambert P, Connelly R, Blackburn RM, et al. (eds), *Social Stratification. Trends and Processes*, Ashgate Publishing, Ltd., pp. 85–100.
- Erola J and Moisio P (2004) Rakennemuutos ja sosiaalinen liikkuvuus Suomessa [Structural change and social mobility in Finland]. In: Kantola I, Koskinen K, and Räsänen P (eds), *Sosiologia karttalehtiä*, Tampere: Vastapaino.

- Erola J and Moisio P (2007) Social Mobility over Three Generations in Finland, 1950–2000. *European Sociological Review* 23(2): 169–183.
- Erola J, Jalonen S and Lehti H (2016) Parental education, class and income over early life course and children's achievement. *Research in Social Stratification and Mobility* 44: 33–43.
- Esping-Andersen G (1990) *The Three Worlds of Welfare Capitalism*. Princeton, New Jersey: Princeton University Press.
- Esping-Andersen G (2004) Untying the Gordian Knot of Social Inheritance. *Research in Social Stratification and Mobility*, Inequality: Structures, Dynamics and Mechanisms: Essays in Honour of Aage B. Sorensen 21: 115–138.
- Esping-Andersen G and Wagner S (2012) Asymmetries in the opportunity structure. Intergenerational mobility trends in Europe. *Research in Social Stratification and Mobility* 30(4): 473–487.
- Esping-Andersen G, Garfinkel I, Han W-J, et al. (2012) Child care and school performance in Denmark and the United States. *Children and Youth Services Review*, Comparative Child and Family Policy 34(3): 576–589.
- Eurostat (2013) *European Union Labor Force Survey*. Luxembourg: Eurostat.
- Farkas G (2003) Cognitive Skills and Noncognitive Traits and Behaviors in Stratification Processes. *Annual Review of Sociology* 29(1): 541–562.
- Featherman DL, Jones FL and Hauser RM (1975) Assumptions of social mobility research in the United States. *Social Science Research* 4(4): 329–360.
- Fishkin JS (1983) *Justice, Equal Opportunity and the Family*. New Haven, Conn.; London: Yale University Press.
- Fouarge D and Layte R (2005) Welfare Regimes and Poverty Dynamics: The Duration and Recurrence of Poverty Spells in Europe. *Journal of Social Policy* 34(3): 407–426.
- Fritzell J, Bäckman O and Ritakallio V-M (2012) Income Inequality and Poverty: Do the Nordic Countries Still Constitute a Family of their Own? In: Kvist J, Fritzell J, Hvinden B, et al. (eds), *Changing Social Equality: The Nordic Welfare Model in the 21st Century*, Policy Press, pp. 165–185.
- Fussell E and Furstenberg FF (2005) The transition to adulthood during the twentieth century. In: Settersten RA, Furstenberg FF, and Rumbaut RG (eds), *On the frontier of adulthood*, University of Chicago Press, pp. 29–75.
- Gangl M (2003) The structure of labour market entry in Europe: a typological analysis. In: *Transitions from Education to Work in Europe*, Oxford: Oxford University Press, pp. 107–128.
- Ganzeboom HBG, De Graaf PM and Treiman DJ (1992) A standard international socio-economic index of occupational status. *Social Science Research* 21(1): 1–56.
- Genre V, Salvador RG and Lamo A (2010) European women: why do(n't) they work? *Applied Economics* 42(12): 1499–1514.
- Gierveld JDJ, Liefbroer AC and Beekink E (1991) The effect of parental resources on patterns of leaving home among young adults in the Netherlands. *European Sociological Review* 7(1): 55–71.
- Glaesser J and Cooper B (2014) Using Rational Action Theory and Bourdieu's Habitus Theory Together to Account for Educational Decision-making in England and Germany. *Sociology* 48(3): 463–481.
- Goldthorpe JH and Jackson M (2008) Education-Based Meritocracy: The Barriers to its Realization. In: *Social Class: How Does It Work?*, New York: Russell Sage Foundation, pp. 93–117.
- Goldthorpe JH (1980) *Social Mobility and Class Structure in Modern Britain*. Oxford: Clarendon Press.
- Goldthorpe JH (1996) The Quantitative Analysis of Large-Scale Data-sets and Rational Action Theory: For a Sociological Alliance. *European Sociological Review* 12(2): 109–126.

- Goldthorpe JH (1998) Rational action theory for sociology. *British Journal of Sociology* 49(2): 167.
- Goldthorpe JH (2000) *On Sociology. Numbers, Narratives, and the Integration of Research and Theory*. Oxford University Press.
- Goldthorpe JH (2001) Causation, Statistics, and Sociology. *European Sociological Review* 17(1): 1–20.
- Goldthorpe JH (2007a) *On Sociology. Critique and Program*. Second Edition. Stanford: Stanford University Press.
- Goldthorpe JH (2007b) *On Sociology. Illustration and Retrospect*. Second Edition. Stanford: Stanford University Press.
- Goldthorpe JH (2010) Analysing Social Inequality: A Critique of Two Recent Contributions from Economics and Epidemiology. *European Sociological Review* 26(6): 731–744.
- Goldthorpe JH (2014) The Role of Education in Intergenerational Social Mobility: Problems from Empirical Research in Sociology and some Theoretical Pointers from Economics. *Rationality and Society* 26(3): 265–289.
- Goldthorpe JH and Marshall G (1992) The Promising Future of Class Analysis: A Response to Recent Critiques. *Sociology* 26(3): 381–400.
- Goldthorpe JH and McKnight A (2006) The economic basis of social class. In: Morgan SL, Grusky DB, and Fields GS (eds), *Mobility and Inequality. Frontiers of Research in Sociology*, Palo Alto: Stanford University Press, pp. 109–136.
- Grawe ND (2006) Lifecycle bias in estimates of intergenerational earnings persistence. *Labour Economics* 13(5): 551–570.
- Gregg P, Jonsson JO, Macmillan L, et al. (2013) Understanding Income Mobility: The Role of Education for Intergenerational Income Persistence in the US, UK, and Sweden. *DoQSS Working Paper* (13–12).
- Grusky DB and Hauser RM (1984) Comparative Social Mobility Revisited: Models of Convergence and Divergence in 16 Countries. *American Sociological Review* 49(1): 19–38.
- Grusky DB and Ku MC (2008) Gloom, Doom, and Inequality. Third Edition. In: Grusky DB (ed.), *Social Stratification. Class, Race and Gender in Sociological Perspective*, Stanford University: Westview Press, pp. 2–29.
- Grusky DB and Weeden KA (2001) Decomposition without Death: A Research Agenda for a New Class Analysis. *Acta Sociologica* 44(3): 203–218.
- Guo G and Harris KM (2000) The mechanisms mediating the effects of poverty on children's intellectual development. *Demography* 37(4): 431–447.
- Haider S and Solon G (2006) Life-Cycle Variation in the Association between Current and Lifetime Earnings. *American Economic Review* 96(4): 1308–1320.
- Hakim C (2001) *Work-Lifestyle Choices in the 21st Century: Preference Theory*. Oxford: Oxford University Press.
- Hällsten M (2010) The Structure of Educational Decision Making and Consequences for Inequality: A Swedish Test Case. *American Journal of Sociology* 116(3): 806–854.
- Hansen MN (2001) Education and Economic Rewards. Variations by Social-Class Origin and Income Measures. *European Sociological Review* 17(3): 209–231.
- Hansen MN and Mastekaasa A (2006) Social Origins and Academic Performance at University. *European Sociological Review* 22(3): 277–291.
- Härkönen J and Bihagen E (2011) Occupational attainment and career progression in Sweden. *European Societies* 13(3): 451–479.
- Hauser RM (1978) A Structural Model of the Mobility Table. *Social Forces* 56(3): 919–953.
- Hauser RM and Warren JR (1997) Socioeconomic Indexes for Occupations: A Review, Update, and Critique. *Sociological Methodology* 27(1): 177–298.
- Heckman JJ (2006) Skill Formation and the Economics of Investing in Disadvantaged Children. *Science* 312(5782): 1900–1902.

- Hobcraft J and Kiernan K (2001) Childhood poverty, early motherhood and adult social exclusion. *British Journal of Sociology* 52(3): 495–517.
- Holm A and Jæger MM (2008) Does Relative Risk Aversion explain educational inequality? A dynamic choice approach. *Research in Social Stratification and Mobility* 26(3): 199–219.
- Hout M (1983) *Mobility tables*. Beverly Hills, CA: Sage.
- Hout M (1984) Status, Autonomy, and Training in Occupational Mobility. *American Journal of Sociology* 89(6): 1379–1409.
- Hout M (1988) More Universalism, Less Structural Mobility: The American Occupational Structure in the 1980s. *American Journal of Sociology* 93(6): 1358–1400.
- Iannelli C and Smyth E (2008) Mapping gender and social background differences in education and youth transitions across Europe. *Journal of Youth Studies* 11(2): 213–232.
- Ilmakunnas I (2014) Societal change and poverty in Finland 1971–2011: The roles of distribution of market income, redistribution and demographic change. *Research on Finnish Society* 7: 37–49.
- Ishida H, Muller W and Ridge JM (1995) Class Origin, Class Destination, and Education: A Cross-National Study of Ten Industrial Nations. *American Journal of Sociology* 101(1): 145–193.
- Jackson M (2007) How far merit selection? Social stratification and the labour market. *The British Journal of Sociology* 58(3): 367–390.
- Jackson M, Goldthorpe JH and Mills C (2005) Education, Employers and Class Mobility. *Research in Social Stratification and Mobility* 23: 3–33.
- Jackson M, Erikson R, Goldthorpe JH, et al. (2007) Primary and Secondary Effects in Class Differentials in Educational Attainment The Transition to A-Level Courses in England and Wales. *Acta Sociologica* 50(3): 211–229.
- Jackson M, Luijkx R, Pollak R, et al. (2008) Educational Fields of Study and the Intergenerational Mobility Process in Comparative Perspective. *International Journal of Comparative Sociology* 49(4–5): 369–388.
- Jaeger MM (2007) Educational mobility across three generations: The changing impact of parental social class, economic, cultural and social capital. *European Societies* 9(4): 527–550.
- Jæger MM (2009) Equal Access but Unequal Outcomes: Cultural Capital and Educational Choice in a Meritocratic Society. *Social Forces* 87(4): 1943–1971.
- Jæger MM and Holm A (2007) Does parents' economic, cultural, and social capital explain the social class effect on educational attainment in the Scandinavian mobility regime? *Social Science Research* 36(2): 719–744.
- Jäntti M, Bratsberg B, Røed K, et al. (2007) American exceptionalism in a new light : a comparison of intergenerational earnings mobility in the Nordic countries, the United Kingdom and the United States. *IZA Discussion Paper* (781).
- Jaumotte F (2003) Labour force participation of women: empirical evidence on the role of policy and other determinants in OECD countries. *OECD Economic Studies* (37): 51–108.
- Jencks C and Tach L (2006) Would Equal Opportunity Mean More Mobility? In: Morgan SL, Grusky DB, and Fields GS (eds), *Mobility and Inequality. Frontiers of Research in Sociology*, Stanford University Press, pp. 23–58.
- Jenkins S (1987) Snapshots versus movies. *European Economic Review* 31(5): 1149–1158.
- Johnson W, Brett CE and Deary IJ (2010) The pivotal role of education in the association between ability and social class attainment: A look across three generations. *Intelligence* 38(1): 55–65.
- Jonsson JO and Gähler M (1997) Family dissolution, family reconstitution, and children's educational careers: Recent evidence for Sweden. *Demography* 34(2): 277–293.

- Jonsson JO, Grusky DB, Carlo MD, et al. (2009) Microclass Mobility: Social Reproduction in Four Countries. *American Journal of Sociology* 114(4): 977–1036.
- Jonsson JO, Grusky DB, Pollak R, et al. (2011) Occupational and social mobility: gradational, big-class, and micro-class reproduction in comparative perspective. In: Smeeding TM, Erikson R, and Jäntti M (eds), *Persistence, Privilege and Parenting. The Comparative Study of Intergenerational Mobility*, New York: Russell Sage Foundation.
- Julkunen R (1999) Gender, work, welfare state. Finland in comparison. In: *Women in Finland*, Helsinki: Otava, pp. 79–100.
- Karlson K, Holm A and Breen R (2012) Comparing Regression Coefficients between Same-Sample Nested Models using Logit and Probit: A New Method. *Sociological Methodology* 42: 286–313.
- Karlson KB (2013) Summarizing primary and secondary effects. *Research in Social Stratification and Mobility* 33: 72–82.
- Katrnák T, Fučík P and Luijckx R (2012) The relationship between educational homogamy and educational mobility in 29 European countries. *International Sociology* 27(4): 551–573.
- Kawachi I, Kennedy BP, Lochner K, et al. (1997) Social capital, income inequality, and mortality. *American Journal of Public Health* 87(9): 1491–1498.
- Kawachi I, Adler NE and Dow WH (2010) Money, schooling, and health: Mechanisms and causal evidence. *Annals of the New York Academy of Sciences* 1186(1): 56–68.
- Kerckhoff AC (1995) Institutional Arrangements and Stratification Processes in Industrial Societies. *Annual Review of Sociology* 21(1): 323–347.
- Kerr C, Dunlop JT, Harbison FH, et al. (1960) *Industrialism and Industrial Man: The Problems of Labor and Management in Economic Growth*. Cambridge: Harvard University Press.
- Kettunen P (2001) The Nordic Welfare State in Finland. *Scandinavian Journal of History* 26(3): 225–247.
- Kivinen O, Hedman J and Kaipainen P (2007) From Elite University to Mass Higher Education Educational Expansion, Equality of Opportunity and Returns to University Education. *Acta Sociologica* 50(3): 231–247.
- Kivinen O, Hedman J and Kaipainen P (2012) Koulutusmahdollisuuksien yhdenvertaisuus Suomessa. Eriarvoisuuden uudet ja vanhat muodot. [Educational equality in Finland. The new and old forms of inequality.] *Yhteiskuntapolitiikka* 77(5): 559–566.
- Kleinjans KJ (2010) Family background and gender differences in educational expectations. *Economics Letters* 107(2): 125–127.
- Kloosterman R, Ruiter S, De Graaf PM, et al. (2009) Parental education, children's performance and the transition to higher secondary education: trends in primary and secondary effects over five Dutch school cohorts (1965–99). *The British Journal of Sociology* 60(2): 377–398.
- Kohli M (2007) The Institutionalization of the Life Course: Looking Back to Look Ahead. *Research in Human Development* 4(3–4): 253–271.
- Kohn ML, Naoi A, Schoenbach C, et al. (1990) Position in the Class Structure and Psychological Functioning in the United States, Japan, and Poland. *American Journal of Sociology* 95(4): 964–1008.
- Kuivalainen S and Kenneth N (2011) Eroding Minimum Income in the Nordic Countries and Abroad? Reassessing the Typical Character of Nordic Social Assistance. In: Kvist J, Fritzell J, Hvinden B, et al. (eds), *Changing Social Equality: The Nordic Welfare Model in the 21st Century*, Policy Press, pp. 69–88.
- Lancee B and Van de Werfhorst HG (2012) Income inequality and participation: A comparison of 24 European countries. *Social Science Research* 41(5): 1166–1178.

- Lareau A (2002) Invisible Inequality: Social Class and Childrearing in Black Families and White Families. *American Sociological Review* 67(5): 747–776.
- Lee D (2010) The early socioeconomic effects of teenage childbearing: A propensity score matching approach. *Demographic Research* 23(25): 697–736.
- Lipset SM and Bendix R (1959) *Social Mobility in Industrial Society*. University of California Press.
- Lucas SR (2001) Effectively Maintained Inequality: Education Transitions, Track Mobility, and Social Background Effects. *American Journal of Sociology* 106(6): 1642–1690.
- Lucas SR (2009) Stratification Theory, Socioeconomic Background, and Educational Attainment: A Formal Analysis. *Rationality and Society* 21(4): 459–511.
- Lyngstad TH (2006) Why do Couples with Highly Educated Parents have Higher Divorce Rates? *European Sociological Review* 22(1): 49–60.
- Macmillan R (2005) The structure of the life course: classic issues and current controversies. In: Macmillan R (ed.), *The Structure of the Life Course: Standardized? Individualized? Differentiated?* Amsterdam: Elsevier, pp. 3–24.
- Mäenpää E (2015) Homogamy in Educational Level and Parental Social Class in Finland: A Log-linear Analysis. *European Sociological Review* 31(3): 253–267.
- Mandel H and Semyonov M (2005) Family Policies, Wage Structures, and Gender Gaps: Sources of Earnings Inequality in 20 Countries. *American Sociological Review* 70(6): 949–967.
- Manzoni A, Härkönen J and Mayer KU (2014) Moving on? A Growth-Curve Analysis of Occupational Attainment and Career Progression Patterns in West Germany. *Forthcoming in Social Forces*.
- Mare RD (2011) Introduction to symposium on unmeasured heterogeneity in school transition models. *Research in Social Stratification and Mobility, Unobserved Heterogeneity in Mare Models* 29(3): 239–245.
- Marks G (2011) Issues in the Conceptualisation and Measurement of Socioeconomic Background: Do Different Measures Generate Different Conclusions? *Social Indicators Research* 104(2): 225–251.
- Marks GN (2013) Evaluating Effectively Maintained Inequality: School and post-school transitions, socioeconomic background, academic ability and curricular placement. *Social Science Research* 42(6): 1635–1649.
- Marx K (1894) *Capital, Volume 3: The Process of Capitalist Production as a Whole*. Chicago: Charles H. Kerr and Co.
- Mastekaasa A (2011) Social Origins and Labour Market Success—Stability and Change over Norwegian Birth Cohorts 1950–1969. *European Sociological Review* 27(1): 1–15.
- Maurin E (2002) The impact of parental income on early schooling transitions: A re-examination using data over three generations. *Journal of Public Economics* 85(3): 301–332.
- Mayer KU (2009) New Directions in Life Course Research. *Annual Review of Sociology* 35(1): 413–433.
- Mazumder B (2005) Fortunate Sons: New Estimates of Intergenerational Mobility in the United States Using Social Security Earnings Data. *Review of Economics and Statistics* 87(2): 235–255.
- Mazumder B (2008) Sibling similarities and economic inequality in the US. *Journal of Population Economics* 21(3): 685–701.
- McLanahan S and Sandefur G (1994) *Growing up with a Single Parent: What hurts, what helps*. Cambridge, Mass.: Harvard University Press.
- Merton RK (1968) The Matthew Effect in Science. The reward and communication systems of science are considered. *Science* 159(3810): 56–63.

- Meyers M, Rosenbaum D, Ruhm C, et al. (2004) Inequality in Early Childhood Care and Education: What Do We Know? In: Neckerman K (ed.), *Social inequality*, New York: Russell Sage Foundation, pp. 223–270.
- Meyers MK and Gornick JC (2003) Public or Private Responsibility? Early Childhood Education and Care, Inequality, and the Welfare State. *Journal of Comparative Family Studies* 34(3): 379–411.
- Miller SM (1960) Comparative Social Mobility. *Current Sociology* 9(1): 1–61.
- Mood C (2010) Logistic Regression: Why We Cannot Do What We Think We Can Do, and What We Can Do About It. *European Sociological Review* 26(1): 67–82.
- Mood C, Jonsson JO and Bihagen E (2012) Socioeconomic Persistence across Generations: Cognitive and Noncognitive Processes. In: Ermisch J, Jäntti M, and Smeeding TM (eds), *From Parents to Children; The Intergenerational Transmission of Advantage*, New York: Russell Sage Foundation, pp. 53–83.
- Mulder CH, Clark WAV and Wagner M (2006) Resources, Living Arrangements and First Union Formation in the United States, the Netherlands and West Germany. *European Journal of Population / Revue européenne de Démographie* 22(1): 3–35.
- Müller W and Gangl M (2003) The transition from school to work: a European perspective. In: *Transitions from Education to Work in Europe*, Oxford: Oxford University Press.
- Murphy M and Wang DL (2001) Family-level continuities in childbearing in low-fertility societies. *European Journal of Population-Revue Européenne De Démographie* 17(1): 75–96.
- Musick K and Mare RD (2006) Recent trends in the inheritance of poverty and family structure. *Social Science Research* 35(2): 471–499.
- Neckerman KM and Torche F (2007) Inequality: Causes and Consequences. *Annual Review of Sociology* 33(1): 335–357.
- Nettle D (2003) Intelligence and class mobility in the British population. *British Journal of Psychology* 94: 551–561.
- Nisén J, Martikainen P, Kaprio J, et al. (2013) Educational Differences in Completed Fertility: A Behavioral Genetic Study of Finnish Male and Female Twins. *Demography* 50(4): 1399–1420.
- Nisén J, Myrskylä M, Silventoinen K, et al. (2014) Effect of family background on the educational gradient in lifetime fertility of Finnish women born 1940–50. *Population Studies* 68(3): 321–337.
- Nolan B and Whelan CT (2011) *Poverty and Deprivation in Europe*. Oxford University Press.
- Nordic Council of Ministers (2015) *Nordic Gender Equality in Figures 2015*. Copenhagen: Nordisk Ministerråd.
- Nori H (2011) Keille yliopiston portit avautuvat? Tutkimus suomalaisiin yliopistoihin ja eri tieteenaloille valikoitumisesta 2000-luvun alussa. [For whom will the university gates open? A study of the selection for admission to Finnish universities and fields of study in the beginning of the 21st century.] University of Turku.
- OECD (2008) *Growing unequal? Income distribution and poverty in OECD countries*. OECD Publishing.
- OECD (2013) Labor Force Statistics by Sex and Age - Indicators: Labor Force Participation Rate. Text. Available from: stats.oecd.org.
- Ortiz L and Wolbers MHJ (2013) The role of educational expansion in the early occupational attainment process: Empirical evidence from a cross-national perspective. Working paper.
- Österbacka E (2001) Family Background and Economic Status in Finland. *Scandinavian Journal of Economics* 103(3): 467–484.
- Österbacka E (2004) *It runs in the family empirical analyses of family background and economic status*. Åbo: Åbo Akademi University Press.

- Palme J (2006) Welfare states and inequality: Institutional designs and distributive outcome. *Research in Social Stratification and Mobility* 24(4): 387–403.
- Parsons T (1960) *Structure and process in modern societies*. Glencoe: Free Press.
- Paskov M and Dewilde C (2012) Income inequality and solidarity in Europe. *Research in Social Stratification and Mobility*, Consequences of Economic Inequality 30(4): 415–432.
- Pekkala S and Lucas REB (2007) Differences across Cohorts in Finnish Intergenerational Income Mobility. *Industrial Relations: A Journal of Economy and Society* 46(1): 81–111.
- Pekkarinen T, Uusitalo R and Kerr S (2009) School tracking and intergenerational income mobility: Evidence from the Finnish comprehensive school reform. *Journal of Public Economics* 93(7–8): 965–973.
- Petersen T (2011) Opportunities. In: Hedström P and Bearman P (eds), *The Oxford Handbook of Analytical Sociology*, Oxford: Oxford University Press, pp. 115–139.
- Petersen T, Penner AM and Høgsnes G (2014) From Motherhood Penalties to Husband Premia: The New Challenge for Gender Equality and Family Policy, Lessons from Norway. *American Journal of Sociology* 119(5): 1434–1472.
- Pfeffer FT (2008) Persistent Inequality in Educational Attainment and its Institutional Context. *European Sociological Review* 24(5): 543–565.
- Pfeffer FT and Hertel FR (2015) How Has Educational Expansion Shaped Social Mobility Trends in the United States? *Social Forces* 94(1): 143–180.
- Pöntinen S (1983) *Social Mobility and Social Structure. A Comparison of Scandinavian Countries*. Commentationes Scientiarum Socialium, Helsinki.
- Prix I (2012) Gender Segregation within Different Educational Levels: Austrian and Finnish Trends in the Light of Educational Reform, 1981–2005. *Scandinavian Journal of Educational Research* 56(6): 637–657.
- Prix I (2013) More or different education? The joint impact of educational level and fields of study on earnings stratification in Finland, 1985–2005. *Acta Sociologica* 56(3): 265–284.
- Qi Y (2012) The impact of income inequality on self-rated general health: Evidence from a cross-national study. *Research in Social Stratification and Mobility*, Consequences of Economic Inequality 30(4): 451–471.
- Riihelä M, Sullström R and Suoniemi I (2008) *Tax progressivity and recent evolution of the Finnish income inequality*. VATT Discussion Papers, Helsinki: Government Institute for Economic Research.
- Riihelä M, Sullström R and Tuomala M (2010) Trends in top income shares in Finland 1966–2007. *Government Institution for Economic Research: Research Reports* 157.
- Rijken AJ and Liefbroer AC (2009) Influences of the family of origin on the timing and quantum of fertility in the Netherlands. *Population Studies* 63(1): 71–85.
- Roemer JE (1998) *Equality of Opportunity*. Harvard University Press.
- Roemer JE (2002) Equality of opportunity: A progress report. *Social Choice and Welfare* 19: 455–471.
- Roemer JE (2004) Equal opportunity and intergenerational mobility: going beyond intergenerational income transition matrices. In: Corak M (ed.), *Generational Income Mobility in North America and Europe*, Cambridge: Cambridge University Press.
- Roemer JE (2009) Equality: Its Justification, Nature, and Domain. In: Salverda W, Nolan B, and Smeeding TM (eds), *The Oxford Handbook of Economic Inequality*, Oxford University Press, pp. 23–39.
- Roksa J and Potter D (2011) Parenting and Academic Achievement Intergenerational Transmission of Educational Advantage. *Sociology of Education* 84(4): 299–321.
- Rothstein B and Uslander EM (2005) All for All: Equality, Corruption, and Social Trust. *World Politics* 58(1): 41–72.

- Saar E (2010) Changes in Intergenerational Mobility and Educational Inequality in Estonia: Comparative Analysis of Cohorts Born between 1930 and 1974. *European Sociological Review* 26(3): 367–383.
- Saarivirta T (2010) Finnish Higher Education Expansion and Regional Policy. *Higher Education Quarterly* 64(4): 353–372.
- Sahlberg P (2011) *Finnish Lessons: What Can the World Learn from Educational Change in Finland?* New York: Teachers College Press.
- Scervini F and Segatti P (2012) Education, inequality and electoral participation. *Research in Social Stratification and Mobility*, Consequences of Economic Inequality 30(4): 403–413.
- Schindler S and Lörz M (2012) Mechanisms of Social Inequality Development: Primary and Secondary Effects in the Transition to Tertiary Education between 1976 and 2005. *European Sociological Review* 28(5): 647–660.
- Schneider B, Carnoy M, Kilpatrick J, et al. (2007) *Estimating Causal Effects. Using experimental and observational designs*. Washington D.C.: American Educational Research Association.
- Schnitzlein DD (2013) Low Level of Equal Opportunities in Germany: Family Background Shapes Individual Economic Success. *DIW Economic Bulletin* 3(5): 3–8.
- Settersten RA (2007) Passages to Adulthood: Linking Demographic Change and Human Development. *European Journal of Population* 23(3/4): 251–272.
- Shanahan MJ (2000) Pathways to Adulthood in Changing Societies: Variability and Mechanisms in Life Course Perspective. *Annual Review of Sociology* 26(1): 667–692.
- Shavit Y and Müller W (eds) (1997) *From School to Work: A Comparative Study of Educational Qualifications and Occupational Destinations*. Clarendon Press.
- Sigle-Rushton W (2005) Young Fatherhood and Subsequent Disadvantage in the United Kingdom. *Journal of Marriage and Family* 67(3): 735–753.
- Sirniö O (2010) Sosiaalinen liikkuvuus Suomessa 1985–2005. [Social mobility in Finland 1985–2005.] University of Helsinki.
- Sirniö O, Martikainen P and Moisio P (2011) Sulkeutuiko keskiluokka? Rekisteripohjainen tarkastelu sosiaalisesta liikkuvuudesta Suomessa 1985–2005. [Stagnated middle class? Register-based study on social mobility in Finland 1985–2005.] *Sociologia* 48(8): 309–322.
- Smeeding TM, Erikson R and Jäntti, Markus M (eds) (2011) *Persistence, privilege, and parenting. The comparative study of intergenerational mobility*. New: Russell Sage Foundation.
- Solon G (1992) Intergenerational Income Mobility in the United States. *The American Economic Review* 82(3): 393–408.
- Solon G (2002) Cross-Country Differences in Intergenerational Earnings Mobility. *The Journal of Economic Perspectives* 16(3): 59–66.
- Solon G (2004) A Model of Intergenerational Mobility Variation over Time and Place. In: Corak M (ed.), *Generational Income Mobility in North America and Europe*, Cambridge: Cambridge University Press, pp. 39–47.
- Solt F (2008) Economic Inequality and Democratic Political Engagement. *American Journal of Political Science* 52(1): 48–60.
- Sørensen A (2006) Welfare states, family inequality, and equality of opportunity. *Research in Social Stratification and Mobility* 24(4): 367–375.
- Sørensen AB (1977) The Structure of Inequality and the Process of Attainment. *American Sociological Review* 42(6): 965–978.
- Sørensen AB (1983) Processes of Allocation to Open and Closed Positions in Social Structure. *Zeitschrift für Soziologie* 12: 203–224.
- Sørensen AB (1996) The Structural Basis of Social Inequality. *American Journal of Sociology* 101(5): 1333–1365.
- Sørensen AB (2000) Toward a Sounder Basis for Class Analysis. *American Journal of Sociology* 105(6): 1523–1558.

- South SJ (2001) The Variable Effects of Family Background on the Timing of First Marriage: United States, 1969–1993. *Social Science Research* 30(4): 606–626.
- StataCorp (2009) *Stata Statistical Software: Release 11*. College Station, TX: StataCorp LP.
- StataCorp (2011) *Stata Statistical Software: Release 12*. College Station, TX: StataCorp LP.
- Statistics Finland (2007) *Statistical Yearbook of Finland 2007*. Statistics Finland.
- Statistics Finland (2009) *Three decades of working conditions. Findings of Finnish Quality of Working Life Surveys 1977–2008*. Statistics Finland.
- Statistics Finland (2010) *Oppilaitostilastot 2009. [Educational Statistics 2009.]* Helsinki: Statistics Finland.
- Statistics Finland (2011) *Educational structure of population 2010*. Helsinki: Statistics Finland.
- Statistics Finland (2012) *Income distribution statistics*. Helsinki: Statistics Finland.
- Statistics Finland (2013) *Population statistics*. Helsinki: Statistics Finland.
- Steele F, Sigle-Rushton W and Kravdal Ø (2009) Consequences of family disruption on children's educational outcomes in Norway. *Demography* 46(3): 553–574.
- Sullivan A (2001) Cultural Capital and Educational Attainment. *Sociology* 35(4): 893–912.
- Svallfors S (2005) Introduction. In: Svallfors S (ed.), *Analyzing inequality. Life chances and social mobility in comparative perspective*, Stanford, California: Stanford University Press, pp. 1–16.
- Swartz D (1981) Classes, educational systems & labor markets. *European Journal of Sociology / Archives Européennes de Sociologie* 22(2): 325–353.
- Swift A (2005) Justice, Luck and the Family. The Intergenerational Transmission of Economic Advantage From a Normative Perspective. In: Bowles S, Gintis H, and Osborne Groves M (eds), *Unequal Chances: Family Background and Economic Success*, New York and Oxford: Russell Sage Foundation and Princeton University Press, pp. 256–276.
- Thomsen JP (2015) Maintaining Inequality Effectively? Access to Higher Education Programmes in a Universalist Welfare State in Periods of Educational Expansion 1984–2010. *European Sociological Review* 31(6): 683–696.
- Torche F (2011) Is a College Degree Still the Great Equalizer? Intergenerational Mobility across Levels of Schooling in the United States. *American Journal of Sociology* 117(3): 763–807.
- Treiman DJ (1970) Industrialization and social stratification. In: Laumann EO (ed.), *Social Stratification: Research and Theory for the 1970s*, Indianapolis: Bobbs-Merrill, pp. 207–234.
- Treiman DJ (1977) *Occupational prestige in comparative perspective*. Academic Press.
- Triventi M (2013) Stratification in Higher Education and Its Relationship with Social Inequality: A Comparative Study of 11 European Countries. *European Sociological Review* 29(3): 489–502.
- Ultee W and Luijkx R (1990) Educational heterogamy and father-to-son occupational mobility in 23 industrial nations: General societal openness or compensatory strategies of reproduction? *European Sociological Review* 6(2): 125–149.
- Uslaner EM and Brown M (2005) Inequality, Trust, and Civic Engagement. *American Politics Research* 33(6): 868–894.
- Vallet L-A (2004) Change in intergenerational class mobility in France from the 1970s to the 1990s and its explanation: an analysis following the CASMIN approach. In: Breen R (ed.), *Social Mobility in Europe*, Oxford: Oxford University Press, pp. 115–147.
- Van de Werfhorst HG (2002) A Detailed Examination of the Role of Education in Intergenerational Social-class Mobility. *Social Science Information* 41(3): 407–438.

- Van de Werfhorst HG (2007) Scarcity and Abundance: Reconciling Trends in the Effects of Education on Social Class and Earnings in Great Britain 1972–2003. *European Sociological Review* 23(2): 239–261.
- Van de Werfhorst HG and Hofstede S (2007) Cultural capital or relative risk aversion? Two mechanisms for educational inequality compared. *The British Journal of Sociology* 58(3): 391–415.
- Van de Werfhorst HG and Luijkx R (2010) Educational Field of Study and Social Mobility: Disaggregating Social Origin and Education. *Sociology* 44(4): 695–715.
- Van de Werfhorst HG and Mijs JJB (2010) Achievement Inequality and the Institutional Structure of Educational Systems: A Comparative Perspective. *Annual Review of Sociology* 36(1): 407–428.
- Van de Werfhorst HG and Salverda W (2012) Consequences of economic inequality: Introduction to a special issue. *Research in Social Stratification and Mobility, Consequences of Economic Inequality* 30(4): 377–387.
- Van Wilsem J (2004) Criminal Victimization in Cross-National Perspective An Analysis of Rates of Theft, Violence and Vandalism Across 27 Countries. *European Journal of Criminology* 1(1): 89–10
- Vandecasteele L (2011) Life Course Risks or Cumulative Disadvantage? The Structuring Effect of Social Stratification Determinants and Life Course Events on Poverty Transitions in Europe. *European Sociological Review* 27(2): 246–263.
- Warren JR, Sheridan JT and Hauser RM (2002) Occupational Stratification across the Life Course: Evidence from the Wisconsin Longitudinal Study. *American Sociological Review* 67(3): 432–455.
- Weber M (1922) *Economy and Society: An Outline of Interpretive Sociology*. Berkeley: University of California Press.
- Weeden KA and Grusky DB (2012) The Three Worlds of Inequality. *American Journal of Sociology* 117(6): 1723–1785.
- Weeden KA, Kim Y-M, Carlo MD, et al. (2007) Social Class and Earnings Inequality. *American Behavioral Scientist* 50(5): 702–736.
- Whelan CT and Maître B (2005) Vulnerability and multiple deprivation perspectives on economic exclusion in Europe: A latent class analysis. *European Societies* 7(3): 423–450.
- Whelan CT, Nolan B and Maitre B (2013) Analysing Intergenerational Influences on Income Poverty and Economic Vulnerability with Eu-Silc. *European Societies* 15(1): 82–105.
- Wiik KA (2009) ‘You’d Better Wait!’—Socio-economic Background and Timing of First Marriage versus First Cohabitation. *European Sociological Review* 25(2): 139–153.
- Wilkinson RG and Pickett KE (2006) Income inequality and population health: A review and explanation of the evidence. *Social Science & Medicine* 62(7): 1768–1784.
- Wilkinson RG and Pickett KE (2009) *The Spirit Level: Why More Equal Societies Almost Always Do Better*. London: Alan Lane.
- Williams R (2006) Generalized ordered logit/partial proportional odds models for ordinal dependent variables. *The Stata Journal* 6(1): 58–82.
- Wolbers MHJ (2007) Employment Insecurity at Labour Market Entry and Its Impact on Parental Home Leaving and Family Formation A Comparative Study among Recent Graduates in Eight European Countries. *International Journal of Comparative Sociology* 48(6): 481–507.
- Wright EO (ed.) (2005) *Approaches to Class Analysis*. Cambridge: Cambridge University Press.
- Wright EO (2008) Logics of class analysis. In: Lareau A and Conley D (eds), *Social Class: How Does It Work?* New York: Russell Sage Foundation, pp. 329–349.